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Borough of Swindon
EDUCATION COMMITTEE.

Annual Report

FOR THE YEAR 1924

OF THE

School Medical Officer,

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

John Drew (Printers) Ltd., Swindon

BOROUGH OF SWINDON

EDUCATION COMMITTEE.

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STAFF.

School Medical Officer—Dunstan Brewer, M.R.C.S., L.R.C.P., D.P.H.

Assistant School Medical Officer—Marion Draper, M.B., Ch.B., D.P.H

Specialist Ophthalmic Surgeon.
Richard Philip Brooks, F.R.C.S., L.R.C.P., L.S.A.

Dental Surgeon.—W. Kenyon Berrie, L.D.S., R.F.P.S.G.

Head Clerk—S. Mansfield Dee.
Assistant Clerk—Miss G. L. Norris.

School Nurses—

Miss A. M. Hoare.
2 years Certificate of Hospital Training.
Certificate of Central Midwives Board.
Certificate of the Royal Sanitary Institute.

Miss I. D. Sampson.
3 years Certificate of Hospital Training.
Certificate for Tuberculosis (Royal Chest Hospital, London).
Queen's Nurse.
Certificate of Central Midwives Board.

Miss E. M. Pilcher.
3 years Certificate of Hospital Training.
School Nurses and Health Visitors and Tuberculosis Certificate.
Certificate of the Royal Sanitary Institute.

Miss L. M. Griffin.
3 years Certificate of Hospital Training.
Certificate of Central Midwives Board.

BOROUGH OF SWINDON.

EDUCATION COMMITTEE.

Area	4,265 Acres
Number of Elementary Schools	14
Number of School Departments	30
Recognised Accommodation	10,300
Number of Children on Register	8,868
Average Attendance	7,701

Number of Secondary Schools	2
Number of Scholars on Roll :—	
Victoria Road	482
Euclid Street	304

To the Chairman and Members of the Education Committee of the Borough of Swindon.

LADIES AND GENTLEMEN,

I have pleasure in presenting the Report upon the Medical Inspection and Treatment of School Children in the Borough for the year 1924.

There was no change in the Staff during the year under review. The alteration to the premises at Eastcott Hill were completed, resulting in a building admirably suited and equipped for the purpose of school clinical medicine, allowing for certain newer forms of treatment to be carried out efficiently and for the scheme for collecting and tabulating all the evidence in connection with each individual child to be put into execution.

In 1924 the School Medical Service of Swindon reached its highest point of efficiency and it has become a grave concern to all who are interested in this important department whether the high standard reached can be maintained. All means that are feasible for ensuring the health of the child have been put into practical application resulting as was foretold, in a great diminution in the amount of child sickness and still more marked diminution in its severity. As the mass of common and obvious defects and ailments gradually shrinks, it becomes possible besides curing the ailments of childhood, to elucidate and suppress the tendencies towards those diseases which develop in adolescence and adult life. To cure a child of ringworm ; to remove diseased tonsils which are interfering with development ; to rectify defective sight which is interfering with education ; and to steer a child through the common infections of childhood without permanent disability resulting, is indeed a great work and pays exceedingly well for the expense and trouble involved. But how much greater would be the benefit if we could turn a child out into industry, not only healthy and free from defect, but with a guarantee that health would be maintained during active life ; the insidious onset of chronic disablement prevented and the catastrophe of acute disease eliminated from the future life of the child ? That such an ideal state cannot be guaranteed at present must be admitted, but the progress of medical science gives us many indications that in various directions this much-to-be-desired condition can be partly attained. We therefore find that though a large part of the medical treatment of children becomes less and less insistent as the conditions to be dealt with become less common, the ever widening scope which research opens up to us renders the work more laborious and more complicated.

Reference to the report upon the secondary school children, included in the appendix, gives a general idea of the aim of school medicine at the present time.

It will not be necessary in the present report to enlarge upon matters which have been fully dealt with in past reports, nor to make any exhaustive comments upon activities which have been standardised for some time past and remain unaltered from year to year ; but it certainly is profitable to discuss certain lines of action which have been introduced into the service during the past year with the object of elucidating the primary causes of diseases, for it is by a knowledge of the true causes of diseases and by that knowledge alone, that we can ever hope to overcome them. Unfortunately this knowledge is extremely faulty, for the subject is complicated and elusive, and handicapped by a vast mass of assumed knowledge which is false.

One of the chief methods for determining the causation of disease is the compilation of medical life histories of all citizens. In this way it is possible to discover factors in the past life which have influenced or directly caused disease at a later period. In Swindon, owing to the development of its child welfare scheme, we are in a particularly favourable position to compile and file for reference medical histories of our citizens during their early years and in the past year this work has been developed to a state where it can be pursued in the future with comparatively little labour or difficulty. A knowledge of the physiological activities of a child during the time that it is healthy, gives a very white light for guidance when dealing with the same child in periods of sickness and very often gives indication for correct treatment which, without such knowledge, may be unattainable or obscure. For everything in the process of life is the outcome of factors which have gone before and the final state may be a hopeless puzzle unless a knowledge of antecedent factors is available. The history of disease compiled from observations made before its full development is very widely different from the history generally obtained after the disease has developed. One has only to compare the history of a child who is sick as given by a parent after the disease has developed, with the history as recorded before the disease became obvious, to recognise that by the former method no trustworthy knowledge of the causes, factors or chronology of the disease can be obtained. This point is dealt with somewhat fully for the author is convinced that the compilation of life histories is the most important work of research that is at present before us, and that it promises greater insight into the causes of disease than any other line of investigation.

Before one can speak definitely of the existence of a diseased condition it is necessary for us to know what is the normal and to be able to recognise and to estimate all physiological variations in vital processes which are compatible with health. This also is exceedingly difficult, for in children, at all events, the limits of physiological variation are very wide and it would appear that the state of health is dependent, not upon a series of physiological constants, but upon the balance of activities all of which are variable and that ill-heath supervenes as soon as this balance is disturbed.

The ground work upon which school medicine is built up, is the routine inspection of all children. Owing to many and obvious considerations such medical inspections must be limited in their scope and can only take cognizance of certain factors. A complete medical inspection for every purpose is not within the limits of practical possibility, but this is no reason for not making it as complete as possible. So medical inspection has become more lengthy and more elaborate even though experience enables us to eliminate or curtail some of the points which, in the past, were believed to be essential.

A cursory examination of the defects found during medical inspection and their percentage frequencies might suggest that there is little alteration from one year to another, and that the defects found, their severity, and their frequency, are not much different now from what they were fifteen years ago. But a more careful scrutiny will show that there are very great differences ; many of the worst conditions which were found in past years have now become rare or disappeared altogether ; others though apparently equally as frequent as formerly have become less serious in degree ; and others again appear as if they were new conditions ; but these are new only in the sense that they are now recognised and were formerly overlooked.

RINGWORM.

Ringworm is more a social than a medical question. The disease is of no health importance as it neither affects nor is affected by the health of the person attacked. Its only real trouble is its infectivity which in the past has caused the greatest interference with school life. Among the causes of illiteracy, apart from those which are unavoidable such as mental defection, ringworm has been the chief. Exclusions from school for months or years have been not infrequent and many children excluded from school in the first instance for ringworm have, in the course of time, become forgotten until their inability to earn a livelihood or to take a place in civilization, not because of ringworm, but because of lack of education, brings them again into prominence. The price which has been paid in this direction is out of all proportion to the importance of the disease and it can be shown is not consistent with a true knowledge of its infectivity. A Ringworm Clinic was started in Swindon some three years ago, with the object of treating such cases as did not receive treatment elsewhere ; of studying the true nature of its infectivity ; and of curtailing to the smallest possible margin the loss of schooling involved by this disease. As regards the treatment of ringworm little need be said here ; almost every kind of treatment that has been suggested has been tried and none has been found fully satisfactory. Treatment with X-Rays is generally the quickest and most satisfactory, but it is less certain than we had hoped as the disease not infrequently returns when one thought he had seen the end of it. It may be said that the results obtained by treatment are much better than they were formerly, and that the time occupied to produce a cure has been much shortened, but still it is long. As regards the infectivity of the disease much evidence has been collected. In Swindon, at all events, primary cases are very frequently traced to infection from cattle and occur generally in holiday time, From these cases the disease spreads to members of the same family, particularly among children who sleep together. No evidence of its spread in school was obtained. It is generally held that one cause of the spread of ringworm is the interchange of caps by children. This may be so, but interchange of caps does not occur in school ; in fact school is about the only place where such an exchange cannot occur. The conclusion was reached definitely that given certain safe-guards, the infectivity of ringworm in school was nil, and that exclusion from school on account of ringworm was neither necessary nor justifiable. But the safe-guards are important. In Swindon we use three safe-guards and provided they are attended to allow the children to attend school wihout hinderance. These safe-guards are :—

(1) That ringworm must be under proper treatment.
(2) That the whole head must be kept greasy with vaseline,
and (3) That every child with ringworm must be seen once a week by the School Medical Officer.

It was hoped that by this procedure the supply of illiterates from ringworm would cease and that no danger to other scholars would occur. The results obtained substantiate these hopes.

ENLARGEMENT OF THE THYROID GLAND.

In last year's report a promise was given that a monograph dealing with this subject would be issued during the course of 1924, but extended observations into the subject proved it to be far more complicated than was anticipated, and it was felt that at least another year's work in connection with the subject was required before any public pronouncement could be submitted which would stand hostile criticism. The work is now completed and it is hoped that the promised report will be available in 1925.

ELECTRICAL CLINIC.

In December, 1924, a voluntary association under the County Council opened an Orthopaedic Clinic in Swindon. This was a much needed provision as, up to the present, our methods of dealing with cripples has not been satisfactory. It is, of course, too early to make any observation upon the working of this Clinic except to mention that it will eventually alter and to a great extent absorb the work of the Electrical Clinic which in the past dealt, as far as our capacity allowed us, with a large number of cases which the Orthopaedic Clinic will deal with in future. The Electrical Clinic will still continue, for it performs certain functions which are not filled by the Orthopaedic Clinic, or any other activity.

The general tendency at present is to pass over cases of nervous disease in school children to the orthopaedic surgeon, because in the nervous diseases of children, contractures, deformities, etc., are amongst the most obvious pheonomena ; but the surgeon's province in these cases is a limited one only, the problem presented by children suffering from nervous diseases being one of the most difficult and complicated with which we have to deal and requires consideration from every point of view. There is no easy road to success, when indeed there is a road at all, so orthopaedic treatment can only, at its best, be considered a help in the amelioration of these people.

PROVISION FOR THE TREATMENT OF DEFECTS OF THE NOSE, THROAT AND EAR.

A special clinic was started in 1924, for the treatment of chronic ear discharge by Ionization, and some excellent results have been obtained. Where this treatment is indicated, results are better than those obtained from any other form of treatment ; but the scope of ionization is limited, and though we may hope that increased research will enlarge its sphere of activity, a considerable number of cases of chronic ear disease will always remain which cannot be treated by this means.

Fortunately the supply of chronic ear disease in children is being rapidly dried up at its source. In Swindon the chief cause, scarlet fever, has ceased to operate ; the development of child care has stopped chronic discharge resulting from those causes which date from infancy ; and the systematic early treatment of adenoids and allied throat conditions has stopped this source of supply also. The only cause that still remains productive is measles, and when this disease is taken in hand, as it must be before long, it also will cease to produce chronic ear disease. So we may hope that before long chronic ear discharge, which in the past has proved one of the most troublesome and dangerous troubles of childhood, may become nothing but a memory. The really formidable nature of chronic ear discharge has never been fully appreciated. Of all the diseased conditions met with in routine inspection of children, chronic ear disease is that which most frequently produced fatal results before adolescence, but as the connection between the early disease and the death is generally indirect it is apt to be overlooked.

The scheme in Swindon for dealing with cases of Tonsils and Adenoids requiring operation is perfectly satisfactory so far as school children are concerned, for during the year every case in which operation was considered to be advisable was operated upon. But increasing knowledge of the toddler age indicates that ‘ tonsils and adenoids ’ is a disease of this period of life and not of the school period. The causes of the condition are found during the toddler age and the period for the most effective treatment is in this age also. By the time that these children have entered school the most favourable period for treatment has past. This is significant of what we are finding in all directions, namely that our chief difficulty in dealing with disease is that we start too late.

INFECTIOUS DISEASE.

Whether due to good management or good luck or both the alteration in the method of dealing with those infectious diseases which are officially controlled has resulted in their ceasing to have any tangible influence upon school life and the only infectious diseases which now cause trouble are those for which we have not devised any rational administration. School attendance during the year was much hampered by measles, whooping cough, mumps, chicken pox, and german measles. The first two of these are formidable and dangerous infections. During the year under review whooping cough accounted for more child deaths than all other infections put together, and measles accounted for a considerable proportion of the remainder. But mumps, chicken pox, and german measles are infections of very little importance and strict inquiry into what procedure is necessary for dealing with them is urgently required. We are perfectly prepared to scrap any procedure which is unnecessary, but we are not prepared to alter anything without evidence, and much as we would like to curtail or abolish exclusions from school in connection with german measles and mumps, we are unable to alter the orthodox procedure without evidence upon which we can proceed and in these two diseases we have not got the requisite evidence.

DENTAL WORK.

The Report of the School Dentist appears in the appendix. It is necessary to emphasize that far more dental treatment is required and that our present staff of one whole-time dentist is quite incapable of coping with the work. The report on the secondary school children will explain more fully the vast importance of school dentistry. To raise a race of healthy citizens, school dentistry occupies the foremost position, for with the exception of artificial feeding in infancy, dental disease stands unquestionably at the head of all causes of human disease, degeneration, and premature death.

MENTAL DEFICIENCY.

Swindon possesses a small temporary school of twenty places for the education of mentally defectives. In the past the school has been used mainly for defectives of low grade, but the complete re-organisation of the provision for mentally defectives is at present under consideration. Another matter of equal, if not greater importance, namely the provision of an Open-air School for the borough is engaging the attention of the Education Authority. The need for this provision is most urgent as there is a class of child for whom the ordinary public elementary school and official curriculum are alike unsuitable, but who are capable of being educated in an Open-air School where their physical and mental requirements can be attended to simultaneously Where no such provision exists for the education of these children their development is seriously impeded by long absences from school and schooling under conditions which are unfavourable to them, generally resulting in their becoming illiterate and untrained citizens which, coupled with their physical defects and their uncertain health, renders their whole lives sad in the extreme. From such disaster most of them can be saved by a process which is not inordinately expensive It is hoped that during the coming year considerable progress will be made in connection with an Open-air School for Swindon and some better solution of the problem of mental deficiency will be achieved.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

During the year 1924, 874 children were passed out of the Elementary Schools. In 20 cases no report was available, but of the 854 children of which we have information, 744 or 87.1% were efficient ; 103 or 12.0% were partially efficient ; and 7 or .8% were inefficient. A Table showing the final results of inspection and treatment of these children is given in the appendix.

JUVENILE OFFENDERS.

19 Children, as compared with 25 for the year 1923, were brought before the Children's Court to answer charges, mainly of petty theft and wilful damage. All the offenders were boys.

PROVISION OF MEALS.

The Education (Provision of Meals) Acts of 1906 and 1914, were in force in the borough throughout the year. The scheme for carrying out this work remains similar to what was in vogue last year. It is extremely simple, easy to administer and very cheap ; it is also completely efficient to deal with the local needs.

CONCLUSION

The aim of preventive medicine, of which the inspection and treatment of school children is one of the chief departments, is to give to the citizens lives which are free from the terrors of disease and to insure that each and all of us shall have a chance of completing his destiny unhampered by recurrent sickness and a premature close. That this ideal is not an absurd vision we have increasing knowledge for belief ; that we shall not attain it for many years is unquestionably true, yet can we work towards this goal with an assurance that eventually it will be reached. It is not time but effort that is required ; the way is long and exceedingly difficult, and is beset with many pitfalls and false turnings. By systematic scientific research, Nature can be cajoled into yielding up her secrets, but she is chary of doing so and requires an infinite amount of patience, labour, and humility before she will present the desired fruit.

Research is the essence of our progress and must be pursued in all directions and under all conditions. Nothing in the way of evidence should be allowed to slip past us and there is probably no field in which evidence can be so readily collected on such a large and impartial scale as in school medical inspection. The solution of many of our problems is to be found in the accurate comparison between the healthy and the unhealthy and still more in the comparison between those who are healthy and remain healthy and those who are healthy and who lose their health. From what is said in connection with the secondary school child it will become clear that during childhood the apparent health of the vast majority is similar, but investigation into details shows us means by which we can discriminate present health which will continue as permanent health, and present health which is only maintained by an increased effort on the part of the organism which cannot be maintained and which must eventually break down.

The estimation of the signs and symptoms of disease is puzzling enough ; but the accurate measurement of those departures from the perfectly healthy condition which precede disease is far more delicate and moreover is hampered by our lack of definite knowledge of what can be considered as lying within truly normal limits.

Our progress is dependant greatly upon the goodwill of all concerned in the rearing of the child. Co-operation between the education authority and its medical and scholastic servants, with the parents and with the children themselves, must be secured, so that a spirit of harmony prevails in which the only aim is the well-being of the child. In Swindon a most friendly relationship exists between all these parties. The co-operation of the parents, which is more vitally important than any other, has been secured in a degree which is by no means easily obtainable, and with every step taken to improve the service consideration must be given to the feelings and convenience of the parents. There will always be a few parents who resent anything which they can construe into interference with their children, but the number of such in Swindon is so surprisingly small that it offers no administrative difficulty save the education of such parents to see matters in their proper light. Nor in general has this proved particularly difficult, for the benefits of the school medical service are so obvious when they are properly explained that all who have the real well-being of their children at heart eagerly accept them.

I have the honour to remain,

Your obedient Servant,

DUNSTAN BREWER,

School Medical Officer.

March, 1925.

APPENDIX I.

REPORT OF THE SCHOOL DENTAL SURGEON.

To the Chairman and Members of the Education Committee.

Ladies and Gentlemen,

I have pleasure in presenting the Annual Report on Dental Inspection and Treatment for the year 1924.

Dental Inspection and Treatment have proceeded without a break throughout the year ; 12 Schools, comprising 27 departments, have been visited and inspected.

It is very gratifying to see the sustained benefit derived by the children who have attended the clinic for treatment, also the increased interest taken by many of the parents and guardians in the work. During the year 860 parents attended at the dental inspections, by this means being brought into personal touch with the dentist, which is a very valuable asset in fostering interest and co-operation regarding the welfare of the child's teeth.

2,721 appointments were made, 2,438, or 89.5% were kept.

The School Medical Officer administered Nitrous-Oxide gas in 13 cases. Extractions otherwise have been done by the aid of Local Anaesthetics.

The Dental Nurse was present on all occasions, and her presence is greatly appreciated by all.

The procedure of treating all children who accept, until they are 9 years of age, and following up all who have attended until they leave the Elementary School, has been continued. Meantime this practice will have to be adhered to in order to cope with the increasing demand for clinical treatment in routine work, as it is essential if possible that all children should be seen at least every year during this time.

ROUTINE INSPECTION.

3484 Children were inspected in the Schools.
20.7% or 720 Children were found free from caries.
3.1% or 107 Children were found to require no treatment.
76.2% or 2657 Children were recommended for treatment.
56.5% or 1502 Children recommended for treatment, attended the Clinic.

The total number of individual children, including "Special" cases who attended the Clinic was 1676, who made 2,438 attendances.

1,122 of these were rendered dentally fit as the result of treatment at the Clinic.

The last half hour in the morning session (11.30 to 12) continues to be kept for "Special" and "Casual" cases, *i.e.*, (those cases requiring treatment, and who have not a definite appointment).

The Dentist takes this opportunity of acknowledging the help of School Teachers and the Medical Staff in fostering interest in the Dental Welfare of the children. Much is done in this direction which tends toward the success of the scheme.

W. KENYON BERRIE, L.D.S., R.F.P.S.G.,
School Dental Surgeon.

February, 1925.

APPENDIX II.

REPORT ON THE MEDICAL INSPECTION OF PUPILS ATTENDING THE SECONDARY SCHOOLS.

The scheme for the medical inspection of Secondary School Children comprises a preliminary examination of a comprehensive nature of all pupils as soon as possible after admission ; a system for keeping in touch with them during the time they are at school ; and yearly re-examinations of all.

Owing to the pressure of work on the Medical Department, the last provision, the yearly re-examination of all pupils has not been carried out until the present year. But this work could be delayed no longer, so time *had* to be found for it, as the accumulation of evidence bearing upon the secondary school child indicated that a complete survey of every pupil in our schools was requisite in order to gain precise information of the troubles which originate during secondary school life and to formulate schemes by which they could be suppressed or mitigated.

As will appear from the perusal of this communication, matters of fundamental importance, requiring most careful consideration were brought to light and, as with all the information freshly before us, discussion upon these points is most timely, it is proposed to consider them fully even though such action necessitates this communication being somewhat lengthy and complicated.

The examination of the Entrants followed the lines laid down in the past, with the exception that the boys at Victoria Road School were examined, not during school hours, but in the evening. The reason for this was the difficulty of finding accommodation when the classes were sitting. This departure was a breach of the regulation that school inspections must take place during school hours, so that it could only be effected by the mutual agreement of all parties concerned, and where any difficulty or objection might arise, arrangements made for the examination to take place at normal times. Though this arrangement necessitated the Staff working long periods of overtime, the advantages were such as to suggest that this procedure should continue wherever possible. The parents of the children in general find it much easier to attend in the evening than during the day time and with one exception, which was due to illness, a parent was present during the examination of every child. Being conducted at a time which was free, there was no occasion to limit the extent of the examination on the point of time ; nor was the examination subject to the continued interruptions which are unavoidable during the day time. It was therefore possible to give a more complete and searching examination than had ever before been attempted, and to discuss fully with the parents and teaching staff all the points revealed. Speaking generally, the new admissions were unusually favourable and the defects discovered were well below the average, both in number and severity. Those pupils who had been transferred from our public elementary schools had been under observation throughout their school career, and in many cases from infancy, and a considerable number of them had had the benefit of dental inspection and treatment. It was expected that the elementary school child who eventually goes to the secondary school, would belong to that class which most appreciates the benefits of school medicine, and it was found in fact that most had availed themselves of our scheme of treatment for the mitigation of the troubles of childhood. We found that most of the entrants could pass as free from defect without comment, and that only occasionally were children presented with defects that ought to have been remedied previously. The dental condition of these children is exceptionally good, for but few cases urgently requiring the dentist were noted which as regards Swindon children were cases where the effort to obtain treatment had not been made. The children from the districts outside the borough were less favourable, particularly as regards their teeth and throats. This was to be expected, for the difficulties confronting school medicine in the rural districts are so vastly greater than those which obtain in the town, that even in a county scheme brought to the highest pitch of efficiency at present possible, the results cannot reach those obtainable in boroughs.

The survey and re-examination of the pupils who had already undergone one systematic examination presented many problems which had to be considered carefully before it was started. It was obvious that when dealing with children who on at least one, and generally on three, previous occasions, had been systematically inspected ; who throughout their childhood had been more or less under surveyance ; in a town where the school medical department was in constant touch with the school authority, and arrangements made whereby any accident or disease occurring during the course of school life is brought before the School Medical Officer and considered at the time of its occurrence ; the necessity for periodical inspection would be less insistent than in places where such schemes were not practicable or less complete ; and also that the character of the inspection might with advantage depart considerably from ordinary routine inspection. But, on the other hand, evidence had been collected showing that certain chronic disabilities diffierent in kind from those of early childhood, are particularly apt to start during the secondary school period, to which in the past attention had not been directed until they produced disaster in later life. Moreover the senior pupils had had less opportunity open to them during their earlier years so that defects which now would be attended to during early childhood may have been overlooked, to pursue their course unchecked. When we come to the actual re-inspection of pupils we find that many matters which require to be searched for in younger children are no longer prominent, but that a new series of disabilities have put in an appearance requiring to be searched for and considered. The secondary school child, *i.e.*, a child between the ages of 11 and 19 years, is at that time of life when the vital forces are at their highest activities, and death is less common than at any other period. The vital forces being in the ascendency, it follows that even where grave disease commences, the fight against it is so powerful that apparent health is maintained and the true nature of the process does not become apparent till after the heyday of youth is past. It is important to realize that even serious diseases originating during the secondary school period will not, in general, destroy the health of the individual until after the school age is past. When one considers that secondary school children are seldom ill, attend school regularly, are energetic, and apparently in the best of health, one might be led to suppose that with very few exceptions they are all perfectly healthy and have long and healthy lives before them. But unfortunately the real condition is not so favourable, and a large amount of the health observable is temporary or fictitious. The care of the child during the period under review is perhaps more important than at any period of life except infancy and is beset with the added difficulty that the vitality of the child is constantly masking the early symptoms of declining health.

In the course of inspection numerous minor matters, accidental to school life are met with. The policy pursued in dealing with these is to get them out of the way without delay, and owing to the satisfactory state of our clinical arrangements, this can be done without difficulty. A certain small number of more grave conditions also accidental to school life, and which were not known of before, are met with, but owing to our system of child care, these are comparatively rare. The object of medical inspection is not the discovery of diseases and defects which have previously been overlooked or neglected, but the detection of the first symptoms and signs of threatened disease and the prevention of its development.

Five infections threaten the secondary school child, and may occur at any time—Scarlet Fever, Pneumonia, Acute Rheumatism, Appendicitis and Tuberculosis of the Lungs. These require consideration.

Scarlet Fever at this period of life is often very severe and frequently followed by disasterous consequences. The campaign made against this disease in Swindon in the last few years has resulted in its total disappearance for the time, and though this happy state cannot be guaranteed to continue, we have every ground for believing that in future the damage done by Scarlet Fever will no longer trouble us.

The Pneumonias are a group of infections which threaten life at all times, and are in fact at all ages the chief killing diseases of mankind, but during the secondary school age, they are less fatal and less likely to do permanent damage than at any other period of life.

Rheumatic Fever is of great importance in secondary school life, as it is the cause of practically all cases of chronic heart disease which originate during this period. It appears to be less common in Swindon than in most parts of the country, and there is good evidence that locally its prevalence is decreasing. Fortunately, at this age, rheumatism is generally an acute and painful condition so it is likely to receive attention early. In this way it differs from the disease in the earlier periods of childhood when it is frequently so apparently trivial that it escapes detection until it has produced permanent crippling of the heart. Among our secondary school children one has been hopelessly crippled by rheumatism, and is now a permanent invalid, removed from our registers; three others have hearts seriously damaged; and three or four have hearts which though slightly damaged by this desease will not, in all probability, seriously cripple their lives.

Appendicitis is one of the greatest bugbears of secondary school life, and produces some of the most distressing calamities that we have to face. One may reckon that between one and two per cent of our secondary school children will suffer appendicitis during the time they are attending the secondary school. Fortunately we are making considerable progress in the detection of the disease in its early stages, and before long we may be able to prevent it or at all events to forestall its development and rob it of its terrors. It is interesting to record that among 80 boy entrants the probability of the development of appendicitis was considered in each; three of the boys were considered probable subjects and 77 not probable. Of the former two were operated upon for acute appendicitis during the year, and of the latter one only.

As a general rule for the guidance of teachers, children who have undergone operation for appendicitis or other abdominal diseases should be excluded from games and gymnastic exercises for six months; after which they can, in general, return to the normal curriculum.

In school inspection one does not of course come across the acute stages of Scarlet Fever, Pneumonia, or Rheumatism, but one does see the damaged ears and throats from the first disease ; the distorted chests from the second ; and the crippled hearts from the third.

Tuberculosis of the Lungs is the great killing disease of late adolescence, so the children at the secondary school have not yet reached the age at which the disease exerts its chief virulence. There was every reason to suspect that, particularly among the older pupils, cases of early tuberculosis of the lungs would be not infrequent. Fortunately, we have found that the position here was far more satisfactory than we had anticipated, not one of our pupils has any sign of early tuberculosis of the lung, and though there are three who have been earmarked for close observation for fear that they may subsequently develop this disease, the signs and symptoms which are considered unsatisfactory are of a very hazy and doubtful nature, so that we may reasonably hope that they will escape.

There is a group of morbid conditions which may be considered, not as accidental to, but as incidental to, secondary school life, and these should engage our attention more than any other matters, for if secondary education is not actually productive of these conditions it contains elements which, if not properly handled, do actually accentuate them.

When we review the findings of an inspection of a secondary school and issue notes on the unfavourable conditions requiring attention, we are struck by the fact that the vast majority of those who require attention do so for one or more of four specialized complaints which affect, not an occasional pupil here and there, but a considerable proportion of the whole. These conditions are ;

(1) Caries of the teeth.
(2) Enlargement of the Thyroid and symptoms of its disordered action.
(3) Myopia.
(4) Spinal Curvature.

It will be noticed that this list is totally different from such a list as would be drawn up in dealing with elementary school children. Diseases of the Throat, Hypermetropia, Enlarged Glands, and Rickets, which are the main diseases incidental to the young child, have ceased to operate, and a new list as detailed above has taken their place. Diverse as the four conditions enumerated above appears to be, it will be shown that they have so much in common and are due to so much the same causes that the principles of management for the prevention of any one of them are more or less applicable to all. There will be nothing gained by the schoolmaster having an intimate knowledge of medicine, but it appears to us that every schoolmaster should have some familiarity with those conditions which will effect anything from 10% to 50% of his whole clientele. A knowledge of these conditions will help him very considerably to succeed in his own sphere, for these conditions are not only incidental to secondary school life, but, after lack of brains, are perhaps the most important cause of educational failure. They therefore must be considered as taking part in ordinary school life and provision for preventing and for dealing with them should form part of the ordinary machinery of secondary education. We will therefore discuss these matters in detail for we conceive that when they are understood it will not prove difficult to remedy them.

CARIES OF THE TEETH.

The state of the teeth of every pupil in the school is now recorded. The teeth are examined by the medical inspector with the help of a dental probe so that the earlier manifestation of disease can be discovered. Our dental colleagues express the opinion that if these same children were examined by a dentist with all the appliances which he can command, but which would not be feasible at school medical inspection, they would expect to find an average of one more affected tooth per head. These figures may be accepted as probably accurate. What was actually found at medical inspection can be seen from the two tables given (1) Boys at Victoria Road Secondary School and (2) Girls at Euclid Street Secondary School.

Some important observations can be made on the findings. We have mentioned that the boys newly admitted as pupils possess exceptionally good teeth, due to the fact that so many of them have had dental supervision in the elementary schools. We find as we go upwards from the lower to the senior forms that the amount of dental disease steadily increases ; that the amount of dental treatment that has been received steadily diminishes ; and that in the majority of the senior pupils dental decay has been allowed to progress unchecked from childhood. These senior pupils have never had the advantage of school dentistry in their younger days, and so have lost much which might have been saved, besides, what is most important, the educational effect of the school dentist. We are finding that children who have been dentally inspected and treated from an early age become educated in the care of their teeth and continue to have them kept in order after they have left school.

It is important to recognise the influence that dental decay has upon the life of the individual. The unsightly aspect of decayed teeth and toothache are matters of little concern to the Hygienist ; though the former is important when the children have to undergo the depressing ordeal of getting billets ; and the latter temporarily interferes with school life. The influence upon nutrition due to the lack of proper powers of mastication and chronic poisoning resulting from continuously swallowing poisonous matter are more important ; but far more important than all these is the fact that carious teeth harbour certain organisms which produce a poison which directly destroys the blood corpuscles and the unhealthy condition of the gums surrounding bad teeth allows the entrance of this poison into the blood stream. In children with carious teeth the blood is being constantly destroyed during childhood. When the vital processes are vigorous the active production of new blood keeps pace with the abnormal loss, so that the state of health is more or less maintained. But as the child grows older and the vital processes begin to wane, the loss proceeds at a greater rate than the renewal, and rapid decay of the whole body, terminated by fatal disease, supervenes. Apart from ill-feeding in infancy, caries of the teeth stands first of all causes of disease. If the blood of children suffering from dental caries is examined, (as here locally it frequently is), it is found that though the state of health is maintained, the balance is only struck by the abnormal production of blood which shows changes from its normal composition, telling us that an uphill fight is being maintained which will not last for a reasonable lifetime. Moreover, there is strong reason to believe that the excessive activity thrown on the blood producing apparatus utilizes energy which is needed for mental development and the child with carious teeth is handicapped in its educational struggle just as in after life it will be handicapped in its struggle for actual existence.

From these considerations we assume that the school dentist should be as much a part of the ordinary educational staff as the gymnastic instructor. As things are at present it is but a small proportion of the children in the secondary schools who receive dental treatment, and we have at present no means of augmenting this provision.

ENLARGEMENT OF THE THYROID AND SYMPTOMS OF ITS DISORDERED ACTION.

The subject of thyroid disease of childhood has been made a special study in Swindon during the past five years, and before many months have past the results of the observations made will be available in published form. It will suffice to say here that the matter is extremely complicated, but as the result of following all its ramifications it is possible to show that the condition is capable of prevention and, where not prevented, is capable of speedy cure.

The condition can best be looked at from the point of view of the schoolmaster as a state in which the body chemistry has been disorganized and a condition produced highly deliterious to the physical state, to mental development and to conduct. With the exception of carious teeth, it is the most prominent condition met with in our secondary schools. Whether this is peculiar to Swindon and district or not we are unable to determine with accuracy, but we have strong grounds for believing that it is universal. The causes of the conditions are dietetic from beginning to end ; they are preventable by proper dietary and unless much advanced, are curable by the same means. The influence of this condition upon education is very serious as it brings to grief a great amount of the effort expended upon our children. It is widely diffused throughout our secondary schools, particularly among the senior pupils in whom the gravest form (' Exophthalmic Goitre ') is by no means infrequent. The course of the severer cases, if unchecked, is the deterioration of their abilities, followed frequently by failure to pass the required tests and by complete breakdown in latter adolescence ; unless, as frequently happens, they are carried off by infections which in this condition are frequent and fatal.

MYOPIA.

Of the various form of defective sight met with in school children, myopia is that which causes the greatest trouble in secondary schools. The forms of defective sight which are most common in earlier childhood have little effect on secondary education if they have been properly corrected from early childhood, though to start secondary education in a child whose sight is defective from any cause and is not corrected, is to add another severe obstacle in a path which is already beset with great difficulties. We would say definitely that secondary education should not be given to any child with defective sight unless, and unti the defect is corrected.

Myopia is a special form of defective sight, presenting special difficulties. The causes of this condition are not to be found in secondary school life although the condition frequently does not become manifest until the child has been some years at a secondary school. The causes that produce it are anterior to secondary school life and are not connected with it, but secondary education has some say in the progress of the disease which it is important for us to realize fully. Formerly myopics were divided into two classes, progressive and non-progressive, but this classification is untenable for all myopias are progressive to a certain extent and there is no justification for separating the severe from the slighter forms as different entities, but for school purposes we may recognise four grades of myopia requiring four different kinds of management :

The slighter myopias in which the error can be corrected to normal by lenses below —4. These cases present no special problem, for provided they are supplied with their proper correction, no alteration of school curriculum and routine is requisite. The only disadvantages from which these children suffer are that they must always wear spectacles and that they are procluded from entering certain spheres of industry, (*e.g.*, the Navy) where accurate sight without glasses is requisite. The number of berths closed to slight myopics is steadily diminishing as employers become more intelligent. One provision is necessary for the myopic, that is that his eyes should be examined at stated periods, say every six months, for the condition is one which varies greatly, always increasing up to a point, but occasionally diminishing when it has reached its maximum. The diminution of myopia which sometimes proceeds to cure has been questioned, but in secondary school children it is found occasionally, chiefly in cases in which it is associated with the symptoms of hyperthyroidism. Should the myopia increase, careful increase of the strength of the glasses after due consideration is generally advisable ; should the defect diminish, decrease in the strength of the glasses is imperative.

At the other end of the scale are the high myopias, cases which are rapidly progressing, and cases in which the internal structure of the eye is either damaged or threatened with damage. Children with these conditions are unsuitable for secondary education. Owing to the shape of their eye-balls they cannot converge their eyes for close reading without grave damage and modern secondary education without close reading is an impossibility. These conditions must be considered more as medical than as scholastic problems for though many of them are capable of a high degree of education they are not capable of such education as can be given in secondary schools. There is in our schools at present one marked and three slighter cases of high progressive myopia.

Between these two extremes, lie the moderate cases divisable into two classes, those which would be acceptable for the teaching or similar professions, and those which would not. Both these cases are capable of secondary education, but with some necessary modification which can be arranged. Myopics in general are big readers, and it is frequently held that prolonged reading either causes or increases myopia. This is not so. The connection between reading and myopia is that the visual world of the myopic being limited to what is near to him, he seeks his education and amusement from that source which he can bring visually nearest to him, namely, the book. We cannot here go into the question of the causes of increasing myopia, save to make the general statement that increased pressure within the eye-ball is the deleterious factor and therefore everything which tends to increase the inter-ocular pressure should be avoided. Reading in a bad light and reading with the head bent are two causes ; but the myopic guards himself against these by the dictation of his own comfort Remaining in rooms which are ill-ventilated or over-heated raises the ocular tension by raising the general blood pressure ; exercises which necessitate holding the breath forcibly such as lifting and bending, raise the tension considerably, but ordinary exertion such as running, etc., does not raise either the inter-ocular tension nor the general blood pressure.

In principle, exercises which involve rythmical muscular contraction and relaxation such as running, most games, Indian clubs, etc., do not raise either the blood pressure or inter-ocular tension : games or exercises which necessitate prolonged muscular contraction without relaxation, such as lifting or the horizontal bar exercises raise both tensions. Consequently myopics may indulge in the former but not in the latter. They may play Association football, but not Rugby—because of the scrum. What applies to myopics in this direction, applies in the main to children with hyperthyroidism in which the blood pressure also is a point of extreme importance.

Further, the poison from carious teeth ; the condition of hyperthyroidism and ill-nutrition resulting from failure of certain vital foodstuffs markedly influence myopia for the bad.

SPINAL CURVATURE.

Of all the medical defects incidental to secondary education, none has received so much attention as spinal curvature. It has indeed received consideration out of all proportion to its frequency or its importance, and this has resulted in the production of a host of parasites who feed upon it, and do infinitely more damage than the disease itself. Actually in our secondary schools there is not a single case of spinal curvature which could be detected without scrutiny. When comparing results obtained by present and previous examinations, it is found that a considerable number of children who were noted to have spinal curvature on former inspections, now have normal spines, telling us that there is something in secondary school life which is tending towards the cure of this condition. On the other hand other children, who had normal spines on the first inspection have subsequently developed curvature, telling us also that there is in secondary school life some elements which are working unfavourably.

We find that the generally received ideas of the causation of spinal curvature will not stand before critical investigation. The chief cause of spinal curvature originating in secondary school life appears to be this :—examination of spines under X-rays shows that during the secondary school period massive bone in considerable quantity is deposited in the vertebrae, doubtless necessary to enable the spine to carry the increased weight of the adult. This results in the small, highly flexible and practically unbreakable spine of the infant being transformed into the solid, more or less rigid, and unfortunately vulnerable, spine of the adult. In children in which spinal curvature is observed, it is also observed that the spine has retained its infantile character, and so is unable to bear the weight of the growing body. There is every reason to believe that this deficiency is primary nutritional in character, and like the other matters that we have just considered, caused mainly by an injudicious diet and the poison of carious teeth.

Taken all together, we find that the chief underlying adverse factor causing the morbid conditions incidental to secondary school life are dietetic errors and consequent or parallel poisoning from disease of the teeth.

OVERSTRAIN.

We are now in a position to discuss one of the most important matters in connection with secondary education namely overstrain. Overstrain is a name applied to certain indefinite unfavourable states of the child, presumed to be due to pressure put upon him. Though somewhat vague and indefinite, it is a combination of adverse physiological factors many of which are quite distinct and capable of measurement. Overstrain in the child is the prelude to breakdown in later life, and if we can suppress overstrain we shall thereby probably prevent breakdown. Actual breakdown is not common during secondary school life, though we see it from time to time, but as the vigour of youth begins to wane, breakdown becomes steadily increasingly frequent.

When a child is reported as suffering from overstrain it is immediately concluded that too great pressure has been brought to bear upon him either from athletics or from the mental work at school. But if we consider the subject carefully, we shall see that the first alleged cause has no influence whatever, and the second has influence which is only indirect, and that the condition is really due to a large number of unfavourable factors, all minor in severity, but all acting together. We may first exclude school athletics as the cause of overstrain. This subject has been gone into very carefully, and we are convinced that, given reasonable medical inspection, which would exclude serious disease, the standard of school athletics at Swindon is, with the exception of unavoidable accidents, not such as could possibly produce any adverse influence upon the health of the child. The influence of the pressure of mental work upon the child cannot, however, be dismissed, for although but a minor cause, it is important, and at certain times, and under certain conditions, a very potent factor of overstrain and breakdown.

It is worth while to consider the causes which lead to overstrain, and the methods by which overstrain can be estimated. We shall then be in a position to formulate a method of prevention ; and in preventing overstrain by suppressing its causes we shall not only relieve ourselves of this trouble and guard against breakdown in future years, but will go a long way in the suppression of all other morbid conditions incidental to school life. For it will be found that the causes of overstrain are much the same as those of the more serious and obvious departures from health.

There is one matter of great importance in connection with the subject. Children throughout their developmental life are subject to periods of stasis in which development is apparently suspended. In secondary school life these times manifest themselves by mental and scholastic immobility. Every teacher is aware that, even amongst his most promising pupils, periods occur in which the pupils appear to stand still or to go backwards, and often these times of dullness are associated with mental and moral phenomena which are undesirable. But although these phenomena are known by everybody, the explanation of them is not clear. Of recent years a great deal of attention has been given locally to penetrate this subject. It was thought at first that these periods coincided with sickness; but though the child who is not well will not make scholastic progress, sickness is not usually the cause of these periods of dullness. It was then considered that such periods might be the result of the cumulative effect of the prolonged lack of vitamines and other foodstuffs, but this view was negatived on evidence ; for the somewhat similar conditions which do result from lack of vitamines, can be cleared up within three or four days by an efficient dietary. The analogy between the static periods which occur in school life and similar periods which occur in early infancy, lead us to suppose that they are due to essentially the same causes. In infancy where matters are simpler, progress is generally measured by increase in weight. In advertisements for patent foods, the curve of weight given for infants is an unbroken line ; and, doubtless, the average weight of a large number is a steady increase. The individual human infant however, never increases in weight in an unbroken curve. From time to time periods occur in which the weight either remains stationary or recesses. The cause of this is not pathological, for it is found that it is during these periods that new functions develop ; as for instance when the infant cuts his teeth, develops binocular fixation, or adds to its power of speech and co-ordination. It would appear that when the body is making a special effort in development, all its energies are directed to this purpose, and the development of the rest of its functions held in temporary abeyance. It is probable that in a growing school child the same explanation of its periods of stasis holds good. In one particular this could be proved. It is during one such period that the heart departs from its infantile condition and takes up its adult and permanent state. The misinterpretation and consequent mismanagement of these states of apparent suspended development in infancy has caused much disaster. Let us see if we can prevent disaster following from the mismanagement of such periods in school children. It is at these times that overstrain is most likely to develop, and when such a period happens to coincide, as it may do occasionally, with a time where increased effort is necessitated, such as the weeks preceding an important examination, overstrain and break down are probable.

The following are the known causes which can be proved to operate in the production of overstrain and, as may with advantage be repeated, these are the causes also chiefly operative in producing disease at this period :—

(1) Carious teeth. We put this first, as in dealing with all human diseases which originate after puberty, it is always first.

(2) Errors of nutrition dependant upon faulty diet. The modern diet of children has become so artificial that it is exceptional to find a child who is fed upon a diet on which it can develop fully. We cannot enter into this subject fully, but it may be stated that the dietetics of childhood are perfectly simple, and within the reach of everybody, and the sole reason and excuse for the existence of conditions caused by errors of diet is ignorance, which in this particular is not impossible to remedy.

(3) Lack of sleep. There are two essentials in dealing with the sleep of children. First it must be automatic, and second it must be rhythmical. If these two conditions are satisfied nothing else matters. The actual amount of sleep required varies with the individual. If it is automatically induced and automatically terminated, the sleep is sufficient

whatever its length. If it is rhythmical it must occur at that time of the cycle when it can be most easily utilized. Fortunately in childhood automatic induction of sleep is rarely interfered with. For though children are dosed with all sorts of abominations to pervert their body rhythm, they escape the crowning disaster of hypnotics. But automatic awakening does not always have free play, and the awakening of a child from sleep under any circumstances will ensure that during the following day normal mental development will not take place. The rhythm is more frequently meddled with and generally when the rhythm is destroyed it upsets the automatism as well. One night's lack of normal sleep produces the signs of overstrain immediately; but if other factors are favourable, the symptoms are abolished by the next night's rest.

(4). Clothing. The clothing of girls now obeys all hygienic requirements, but boys still suffer from two articles of clothing, *i.e.*, braces and collars. Braces embarrass the action of the chest and necessitate the chest muscles lifting up the breeches about half an inch fifteen times a minute for sixteen hours a day. We will leave the Professors of Mathematics to work out the amount of energy which is thereby used to embarrass respiration. There is no objection to collars unless they are tight, which they generally are ! Tight collars embarrass the circulation of the head when the neck is bent in reading, and are a frequent source of headache, and consequently of overstrain,

The influence of mental work upon the production of overstrain may be considered in two sections. First the strain produced in school ; second the strain produced by homework. The strain produced in school has little influence in producing overstrain, and the little influence that it bears is caused not by the work itself, but by mental distress incidental to it. Should the class work be reasonably within the capacity of the pupils, and should it be delivered to them with a reasonable amount of feeling and consideration for their difficulties, and should it be doled out piecemeal according to the present requirements of the class, it is inconceivable that any child could suffer from it. If it departs from these premises it might act injuriously on children otherwise open to stress. Even the increased pressure required before an important examination seems to be harmless.

As regards the influence of home-work ; it is not the homework itself, but the conditions under which it is done which bear upon the question of strain. The well fed, well cared for, well slept, healthy child, working in surroundings which are not distracting can stand, without detriment, any homework that he may be given to do. But it is different where the nutrition is doubtful ; where the home conditions are such that sleep can only be had in crowded and ill-ventilated rooms ; and where the homework has to be done in rooms which are small and crowded, and the attention of the child constantly distracted by other persons in the room, or by requests to run errands or look after the baby. These are conditions which are far from uncommon in the homes of our secondary school children. It does not seem impossible to devise some means by which children so situated could be enabled to do their homework under more favourable circumstances.

The ordinary medical examination of children, based upon anatomical departures from normal structure, is not capable of detecting such matters as overstrain or the early processes of disease ; for disease does not cause alteration of structure until it has progressed to an advanced degree. It was therefore necessary to discover means of testing and measuring physiological activities. Fortunately the attention of physiologists since the war has been directed towards this subject, and with a little ingenuity and patient experiment it is possible to use the discoveries of the physiologists in the routine examination of children. By endurance tests we can estimate precisely the influence which various factors have upon the working of the body as a whole, and to tell whether, between any two given dates, anything has acted adversely upon the health of the child. We can by the same means estimate with precision the effect which any given action or work has upon the body economy, and can obtain warnings of danger far earlier than by other means and so can deal with them long before any such danger has done any permanent harm.

Amongst other matters which were considered during the survey was the influence, if any, of certain factors at present inseparatable from educational life which are known to have or are presumed to have, an adverse influence ; namely ; overcrowded classes, ill-ventilated class-rooms, ill-lit class-rooms, over-heated class-rooms, and the continued sitting position. We must not blind ourselves into the belief that these conditions do not exist in our secondary schools ; they all exist ; though perhaps not in any marked degree. No definite evidence could be obtained bearing upon these subjects, for controls for comparison are not available.

Knowing what we have to deal with; feeling sure, within limits, of the reliability of the methods employed for obtaining the information and deducing from the evidence that we have elicited some at least of the true causes of our troubles ; we turn to the subject of remedy with a fairly light heart. For we find that the adverse factors are within our powers to suppress ; nor do the measures indicated appear to be very difficult, likely to entail great expense, or to meet with opposition. The remedy is partly medical, partly educational, and partly scholastic ; and can be achieved by whole-hearted co-operation between the parents, the children, the teachers and the school medical service, acting together, but each minding his own business, and conferring in matters where the business of one seems to intermingle with that of another.

On the strictly medical side, the chief need is school dentistry, and the Governors would be well advised to consider means by which dentistry can be made available for all the pupils. It would rest with the other members of the combination to see that this provision was utilized.

The provision for inspection, for the treatment of ocular conditions, for the treatment of thyroid derangements, and the suppression of minor troubles have been made available for some time though these are at present only temporarily provided.

The education of our children in personal and dental hygiene is essential. Personal hygiene is not a science but a practice, its object is not the diffusion of knowledge, but the instillation of habit. In these days of gross sophistication of our food supply, the inculcation into the child's mind of the habits of automatically seeking such food as is necessary for his existence is essential. This can only be done by most careful instruction started early. It would not be necessary if we obtained our food direct from the lap of nature ; it has become necessary now for we obtain our supplies through the medium of merchants, who for trade purposes whittle away the value of what they handle.

Our educational system is of itself gradually destroying the gross superstitions founded upon still grosser ignorance which are the chief enemies of health.

It remains with the teachers to so develop their art that they can give expression to the findings of modern child physiology. There is no reason why even the special requirements of special children should seriously handicap their education, but this is a matter for the teachers themselves and not for the school medical officer. Much may be effected by conference between the school medical officer and the teachers so that the former may put forward the physiological principles involved, and the latter may so modify his management as to give effect to what these principles suggest.

The management of the periods of rest to which attention has been called, are matters to which the teaching profession might give consideration. We feel that they will be enabled to overcome the difficulties presented without undue interference with their curriculum.

In the past, children have either had to go straight through a specified laid down course, or else be excluded from school either temporarily or permanently. Neither procedure is right. Every child requires a certain amount of personal consideration ; no child, save such as are hopelessly crippled, need be deprived of education.

It must be admitted that secondary education is in its nature a severe ordeal ; it must demand from the child the maximum effort and vigour of which he is capable. The object of school medicine is not to interfere with this process, but to render it possible to the greatest number, and this it can do by calling attention to the special need of every child, which would otherwise escape notice, and by timely interference when necessary, to check adverse factors which are starting the child on the downward course.

CONDITION OF TEETH OF SECONDARY SCHOOL BOYS.

Year of Birth	No. of Carious Teeth.												Number of Boys free from caries	Number of Boys examined.
	1	2	3	4	5	6	7	8	9	10	15	17		
1906	....	1	....	....	....	....	....	....	....	....	....	....	2	3
1907	4	1	1	....	1	....	....	....	....	....	....	1	2	10
1908	2	8	1	....	1	....	....	....	....	1	1	....	8	22
1909	2	10	4	4	4	1	1	....	....	....	...	....	31	57
1910	7	4	8	2	2	1	1	1	....	....	....	....	26	52
1911	10	10	11	4	4	....	....	....	....	....	....	....	26	65
1912	11	12	13	11	3	....	....	....	....	....	1	....	28	79
1913	12	2	1	2	....	....	....	....	....	....	....	....	8	25
Totals	48	48	39	23	15	2	2	1	....	1	2	1	131	313

CONDITION OF TEETH OF GIRLS EXAMINED AT EUCLID STREET SECONDARY SCHOOL.

Year of Birth.	Number of Carious Teeth.												Number of Girls free from Caries	Number of Girls examined.
	1	2	3	4	5	6	7	8	9	10	15	26		
1907	....	....	1	....	3	....	....	....	....	1	1	....	....	6
1908	3	2	3	3	3	....	1	5	1	....	....	....	4	25
1909	1	7	4	2	1	2	....	....	....	1	....	....	9	27
1910	4	2	3	3	3	2	1	3	....	....	....	....	2	23
1911	2	1	2	....	1	....	1	....	1	....	....	1	4	13
Totals	10	12	13	8	11	4	3	8	2	2	1	1	19	94

TABLE OF DEFECTS DISCOVERED IN SECONDARY SCHOOL PUPILS BY MEDICAL INSPECTION.

DEFECT OR DISEASE.	BOYS.		GIRLS.		TOTAL.	
	Victoria Rd.	Euclid St.	Victoria Rd.	Euclid St.	Boys	Girls.
Teeth	53	50	70	59	103	129
Thyroid Enlarged	20	15	32	14	35	46
Defective Sight	33	34	43	18	67	61
Spinal Curvature	1	4	16	11	5	27
Nasal Disease, Etc.	4	2	1	1	6	2
Heart : Serious	1	1	1	....	2	1
Not serious	....	1	2	....	1	2
No importance	1	1	....	....	2	....
Defective Hearing	5	7	2	2	12	4
Ear Disease	....	4	1	....	4	1
Tonsils and Adenoids	11	6	7	5	17	12
Tuberculosis : Active	....	1	....	....	1	....
Suspected	3	1	....	....	4	....
Speech Defective	3	....	....	....	3	....
Overstrain & Allied Nervous Conditions	3	15	11	17	18	28
Various— Serious	9	....	6	2	9	8
Not Serious	29	6	14	12	35	26
Special Interview or Letters to parents.	13	2	11	4	15	15

NOTES ON THE FOREGOING TABLES.

Heart. (Serious and not serious). The three serious cases are all rheumatic in origin. Of those not serious, one is certainly rheumatic and the other two are doubtful. This gives a percentage of roughly 0.5% of children seriously damaged by rheumatism and substantiates the statement that rheumatic fever is not a particularly common disease in Swindon. The fact that all the serious heart cases but one are among the seniors is some slight evidence in support of the statement that the disease is decreasing locally.

Defective Hearing. The majority of these cases were caused by the epidemic of measles that occurred in 1916. There is not at present in our secondary schools any child who could be described as ' deaf ' or ' partially deaf ' but of the 16 cases of defective hearing 8 would have to be discarded for the teaching profession or for other professions requiring a like standard.

Ear Disease. In secondary school children this must always be looked upon as serious for if not cured, it generally produces a fatal result before adult life.

Tonsils and Adenoids. Of the 29 cases recorded, about half would be well advised to have their tonsils removed. This condition is a relic left from earlier life, no child having developed the condition known as ' tonsils and adenoids ' during secondary school life.

Overstrain and Allied Nervous Conditions. There is a considerable difference in the figures for Victoria Road School and Euclid Street School. This requires an explanation. The scope of the re-examinations was somewhat altered after all the boys and some of the girls at Victoria Road School has been examined, so that the Victoria Road School figures are not reliable except as regards the more serious degrees of overstrain.

Various—Serious. These 17 children suffer from diseases which must seriously impair their future welfare. It is advisable to have some machinery such as a small Committee composed, let us say, of the Principal, The School Medical Officer, and two of the Governors to consider the question of admitting to the Secondary Schools entrants who suffer from diseases or defects of a serious nature.

The following rates per thousand based upon the re-examinations of the girls are useful :—

152 have Hyperthroidism.
124 have Myopia.
72 have Spinal Curvature.
800 require dental treatment, of which 350 would be discarded for employment requiring medical examination until their teeth were attended to.
260 with Hyperthyroidism have Myopia.
260 with Myopia have Hyperthyroidism.
110 with Spinal Curvature have Hyperthyroidism.
60 with Hyperthyroidism have Spinal Curvature.

The maximum rapidity of the heart during rest which can be considered as normal in a secondary school child is 120 beats per minute. 212 girls per 1,000 have rates above the normal ; in 56 per 1,000 this abnormal rate is due to Hyperthyroidism.

The heart in health re-acts immediately to exertion by increase of the rate of the pulse. In 140 girls the heart fails completely to re-act, which means that in these children the heart at rest is putting forth the maximum rate of which it is capable. Of these 110 are due to Hyperthyroidsm.

The blood pressure varies considerably in individuals. The maximum systolic blood pressure which can be considered normal is provisionally fixed at 135 m.m. of mercury. 400 girls have a maximum blood pressure above the presumed normal figure. Of these 96 are caused by Hyperthyroidism.

The combination of the pulse rate and the systolic blood pressure produces a figure by which the actual work done by the heart can be measured. Since the children examined are in apparent health this figure represents the amount of heart energy which is required to support them in a position of rest. The lower this figure (within certain limits) the better for the child. In children with high blood pressure and rapid pulses the heart energy may be twice that which sufficies for a normal child. Several important deductions may be made from these measurements :—

1. The potential energy of the heart is limited. If the actual energy consumed is much above the normal, the potential life of the heart, and consequently of the individual, is correspondingly reduced.

2. In states of exertion increased output from the heart is essential to prevent exhaustion. In children in whom the output at rest is much above the average, sufficient increased output is not available for exertion, so such children are incapable of normal exertion.

3. In states of acute disease the heart is called upon to put forth its maximum effort. If it is already putting forth its maximum effort to maintain a state of health at rest, it cannot re-act to the increased call of infection and should such children be infected they will almost for certain die. This is one of the explanations why children who are presumed to be healthy, frequently die from acute infections which in general are not highly fatal at their age.

Since the School Medical Officer is also Medical Officer of the Fever Hospital where most of the acute infections of childhood are dealt with, he has had considerable opportunity of proving this last point, for he will know the amount of heart effort which is required to support a condition of health, and will be able to compare this figure with the figure which is actually registered during acute infection.

DUNSTAN BREWER,
March, 1925. School Medical Officer.

ELEMENTARY EDUCATION.

STATISTICAL TABLES.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections.

Entrants	1182
Intermediates	611
Leavers	698
TOTAL	2491
Number of other Routine Inspections ..	Nil

B. OTHER INSPECTIONS.

Number of Special Inspections ..	1633
Number of Re-inspections ..	..3535
TOTAL	5168

TABLE II.—A.—Return of Defects found by Medical Inspection in the Year ended 31st December, 1924.

	DEFECT OR DISEASE.	ROUTINE INSPECTIONS		SPECIAL INSPECTIONS.	
		No. of Defects.		No. of Defects.	
	(1)	Requiring treatment. (2)	Requiring to be kept under observation but not requiring treatment. (3)	Requiring treatment. (4)	Requiring to be kept under observation but not requiring treatment (5)
	Malnutrition	29	....	5	1
Skin	Ringworm :—				
	Scalp	14	....	126	....
	Body	2	....	26	....
	Scabies	2	....	9	....
	Impetigo	14	....	113	....
	Other Diseases (non-Tuberculous)	142	3	249	....
Eye	Blepharitis	33	....	40	....
	Conjunctivitis	10	....	19	....
	Keratitis	....	....	2	....
	Defective Vision	122	....	8	....
	Squint	96	3	20	....
	Other Conditions	19	3	23	....
Ear	Defective Hearing	60	17	60	....
	Otitis Media	66	5	61	....
	Other Ear Diseases	8	....	59	64
Nose and Throat	Enlarged Tonsils only	48	43	54	24
	Adenoids only	3	4	19	6
	Enlarged Tonsils and Adenoids	4	4	31	4
	Other Conditions	71	21	110	11
Glands	Enlarged Cervical (non-Tuber'l'us)	5	6	42	33
	Enlarged Thyroid	108	6	69	25
Speech	Defective Speech	3	2	2	....
Teeth	Dental Diseases	376	....	9	....
Heart & Circula-ation	Heart Disease :—				
	Organic	2	26	4	5
	Functional	3	34	7	9
	Anaemia	4	1	....	....
Lungs	Bronchitis	3	34	14	....
	Other Non-Tuberculous Diseases	7	45	13	2
Tuberculosis	Pulmonary :—				
	Definite	....	....	3	....
	Suspected	....	1	8	3
	Non-Pulmonary :—				
	Glands	....	4	1	....
	Spine	....	....	1	1
	Hip	....	....	2	....
	Other Bones and Joints	....	....	2	....
	Other Forms	....	1	....	1

TABLE II. A—(Continued).

Defect or Disease. (1)		Routine Inspections. No. of Defects. Requiring treatment (2)	Routine Inspections. No. of Defects. Requiring to be kept under observation but not requiring treatment. (3)	Special Inspections. No. of Defects. Requiring treatment. (4)	Special Inspections. No. of Defects. Requiring to be kept under observation but not requiring treatment. (5)
Nervous System	Epilepsy	3	6	6	1
	Chorea	1	2	7	2
	Other Conditions	18	11	39	5
Deformities.	Rickets	2	11	2	....
	Spinal Curvature	25	14	11	1
	Other Forms	67	16	10	9
Other Defects or Diseases		71	55	327	12

B. Number of INDIVIDUAL CHILDREN found at ROUTINE Medical Inspection to Require Treatment (Excluding Uncleanliness and Dental Diseases).

Group. (1)	Number of Children		Percentage of Children found to require treatment. (4)
	Inspected (2)	Found to require treatment (3)	
CODE GROUPS :			
Entrants	1182	389	32·9
Intermediates	611	196	32·0
Leavers	698	246	35·2
Total (Code Groups)	2491	831	33·3
Other Routine Inspections	—	—	—

TABLE III.—Return of all Exceptional Children in the Area.

			Boys	Girls	Total
Blind (including partially blind).	(i) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind	1	1	2
		Attending Public Elementary Schools	....	....	....
		At other Institutions	....	1	1
		At no School or Institution	3	1	4
	(ii) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind	....	....	....
		Attending Public Elementary Schools.	....	....	....
		At other Institutions	....	....	....
		At no School or Institution	1	....	1
Deaf (including deaf and dumb and partially deaf).	(i) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf.	2	2	4
		Attending Public Elementary Schools.	....	....	....
		At other Institutions	....	....	....
		At no School or Institution	....	....	....
	(ii) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf.	....	....	....
		Attending Public Elementary Schools.	1	1	2
		At other Institutions	....	....	....
		At no School or Institution	....	1	1
Mentally Defective.	Feebleminded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children.	7	7	14
		Attending Public Elementary Schools.	1	3	4
		At other Institutions	....	....	....
		At no School or Institution	4	4	8
	Notified to the Local Control Authority during the year.	Feebleminded.	2	3	5
		Imbeciles	4	3	7
		Idiots.	....	....	....
Epileptics.	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics	1	....	1
		In Institutions other than Certified Special Schools	....	....	....
		Attending Public Elementary Schools.	1	3	4
		At no School or Institution	1	1	2
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools.	3	2	5
		At no School or Institution	....	....	....

TABLE III.—(Continued).

			Boys	Girls	Total
ysically efective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	....	....	....
		At other Institutions	....	1	1
		At no School or Institution	....	....	....
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	....	....	....
		At Certified Residential Open Air Schools.	....	....	....
		At Certified Day Open Air Schools.	....	....	....
		At Public Elementary Schools	4	2	6
		At other Institutions	....	....	....
		At no School or Institution	1	....	1
	Delicate children (e.g., pre-or latent tuberculosis, malnutrition, debility, anaemia, etc.)	At Certified Residential Open Air Schools.	....	....	....
		At Certified Day Open Air Schools.	....	....	....
		At Public Elementary Schools.	4	8	12
		At other Institutions.	....	....	....
		At no School or Institution	....	....	....
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board.	....	....	....
		At Public Elementary Schools	....	....	....
		At other Institutions	....	....	....
		At no School or Institution	....	....	....
	Cripple Children (other than those with active tuberculous disease), e.g., children suffering from paralysis &c., and including those with severe heart disease.	At Certified Hospital Schools	....	....	....
		At Certified Residential Cripple Schools.	....	....	....
		At Certified Day Cripple Schools.	....	....	....
		At Public Elementary Schools	15	12	27
		At other Institutions.	1	1	2
		At no School or Institution	2	3	5

TABLE IV.—Return of Defects Treated during the Year ended 31st December, 1924.

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group V).

Disease or Defect.	No. of Defects treated under Authority's Scheme.			Number of def'cts cured	No. of defects remaining under treatm't	No. of attendances at Clinic	No. of Consultations.
	From previous Year	New Cases	Total				
Contagious Skin Diseases—							
Impetigo	4	112	116	112	4	880	314
Scabies	3	9	12	12	....	33	23
Other Diseases	....	1	1	1	....	4	4
Non-Contagious Skin Diseases							
Dermatitis	1	25	26	25	1	85	48
Eczema	....	23	23	22	1	125	34
Psoriasis	....	3	3	3	....	16	13
Seborrhoea	....	29	29	29	....	87	54
Alopecia	....	7	7	6	1	32	17
Abscesses	....	12	12	12	....	36	18
Boils	....	14	14	14	....	65	24
Warts	....	12	12	11	1	44	41
Herpes	....	8	8	8	....	53	25
Urticaria	....	4	4	4	....	19	7
Pruritus	....	1	1	1	....	2	2
Other Diseases	1	22	23	23	....	125	45
Ear, Nose and Throat Diseases							
Glands	....	38	38	38	....	78	68
Rhinitis	....	5	5	5	....	9	8
Tonsillitis	....	14	14	14	....	26	22
Other Diseases	....	13	13	13	....	28	19
Wounds and Injuries—							
Injuries	....	22	22	21	1	81	54
Dog Bites	....	10	10	10	....	40	11
Burns, Scalds &c.	....	12	12	12	....	96	35
Septic Sores	3	76	79	79	....	506	123
Bruises, Cuts, &c.,	....	59	59	59	....	269	84
Others	2	15	17	17	....	62	26
External Eye Diseases—							
Foreign Body	....	2	2	2	....	6	4
Stye	....	2	2	2	....	14	3
Keratitis	....	1	1	1	....	9	5
Blepharitis	4	35	39	38	1	219	109
Conjunctivitis	1	17	18	18	....	219	107
Pink-Eye	....	1	1	1	....	13	6
Corneal Ulcer	....	1	1	1	....	13	7
Strabismus	....	10	10	10	....	13	8
Trachoma	....	1	1	1	....	33	20
Other Diseases	....	8	8	8	....	13	13

Group I.—Minor Ailments—Continued.

Disease or Defect.	No. of Defects treated under Authority's Scheme			Number of def'cts cured	No. of defects remaining under treatm't	No. of attendances at Clinic	No. of Consultations
	From previous Year	New Cases	Total				
nfectious Diseases—							
Chicken Pox	....	17	17	17	....	27	25
Measles	....	6	6	6	....	8	6
Rubella	....	1	1	1	....	1	1
Mumps	1	69	70	70	....	90	79
Whooping Cough	....	4	4	4	....	6	6
Diphtheria	....	1	1	1	....	1	1
eneral—							
Ill-health, &c.	....	59	59	59	....	143	94
TOTALS	20	781	801	791	10	3629	1613

No. of Bacteriological Examinations	89
No. of X-Ray Examinations	40
Total Number of Children Treated	692

Group II. Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

Defect or Disease (1)	Number of Defects dealt with.					
	Under the Authority's Scheme.			Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme. (3)	Otherwise. (4)	Total (5)
	Old	New (2)	Total			
Errors of Refraction (including Squint)	181	245	426	....	....	426
Other Defects or Disease of the eyes (excluding those recorded in Group I)	17	19	36	....	....	36
TOTAL	198	264	462	....	....	462

Total number of children for whom spectacles were prescribed :
(a) Under the Authority's Scheme 235
(b) Otherwise ....

Total number of children who obtained or received spectacles :
(a) Under the Authority's Scheme ....
(b) Otherwise 192

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.				
Received Operative Treatment.			Received other Forms of Treatment.	Total number Treated.
Under the Authority's Scheme, in Clinic or Hospital. (1)	By Private Practitioner or Hospital, apart from the Authority's Scheme. (2)	Total. (3)	(4)	(5)
59	3	62	174	236

GROUP IV.—DENTAL DEFECTS.

(1) Number of Children who were :—

(a) Inspected by the Dentist :

	Aged		
Routine Age Groups	3	83	Total 3484
	4	330	
	5	439	
	6	536	
	7	525	
	8	623	
	9	365	
	10	295	
	11	203	
	12	48	
	13	26	
	14	11	
Specials	..	..	.. 174
	GRAND TOTAL		.. 3658

(b) Found to require treatment 2657

(c) Actually treated .. 2537

(d) Re-treated during the year as the result of periodical examination 1035

(2) Half-days devoted to {Inspection 37, Treatment 356} Total 393

(3) Attendances made by children for treatment 2438

(4) Fillings {Permanent teeth 355, Temporary teeth 508} Total 863

(5) Extractions {Permanent teeth 116, Temporary teeth 1273} Total 1389

(6) Administrations of general anaesthetics for extractions 13

(7) Other operations {Permanent teeth 236, Temporary teeth 2824} Total 3060

GROUP V.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

(i)	Average number of visits per school made during the year by the School Nurses	9
(ii)	Total number of examinations of children in the Schools by School Nurses	23930
(iii)	Number of individual children found unclean (mainly Nits in Hair)	1442
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	469
(v)	Number of cases in which legal proceedings were taken—	
	(a) Under the Education Act, 1921	Nil
	(b) Under School Attendance Bye-laws	Nil

TABLE V.—Treatment of Defects of Nose, Throat, and Ear at Special Clinic.

Number of cases referred for treatment.	Number of Consultations	Number of attendanc's for treatment	DEFECTS.										
			Tonsils considerably enlarged	Tonsils enlarged	Tonsils and Adenoids	Adenoids	Tonsillitis.	Inflam'd Turbinates.	Cervical Glands	Nasal Spurs and Deflections	Nasal Polypi	Nasal Inflamation	Discharging Ears
254	612	2848	33	36	41	25	10	13	32	16	3	29	61

DEFECTS (CONTINUED).									No. for whom operation for Tonsils and Adenoids was advised	No. who received operative treatment for Tonsils and Adenoids	No. of other operations performed	No. of cases cured	No. of cases remaining under treatment or kept under observation	No. of cases for which no Report is available
Myringitis, Diseases and Perforation of Membranes	Tuberculous Cyst	Tympanic Sepsis	Thickened, Scarred and Opaque Membranes	Indrawn Membranes	Deaf ness (Slight)	Deafness (Severe)	Wax in Ears	Other conditions						
56	1	9	35	34	27	1	33	4	59	59	3	179	57	18

TABLE VI.—Treatment of Ringworm.

Number of cases			Number of Consultations with Doctor	Number of Attendances made by Children at Clinic	Number of Bacteriological Examinations.	Number of cases cured.	Number of cases still under treatment		Number of cases for which no report is available.
Old	New	Total					Attending School	Not attending School	
67	152	219	1174	2768	605	161	46	1	11

X-Ray Treatment of Ringworm.

Number of Cases.			Number of X-Ray Exposures	Number of Cases cured.	Number of Cases remaining under treatment.	Number of cases for whom no report is available.
Offered	Refused.	Accepted				
16	....	16	50	6	9	1

TABLE VII.—Electrical Treatment.

Number of Cases.					Number of Attendances for Treatment.	Disease or Defect.				
Boys		Girls		Total		Infantile Paralysis	Naevus	Encephalitis Lethargica	Cerebral Palsy	Functional Paralysis.
Old	New	Old	New							
3	6	11	9	29	429	12	10	1	5	1

TABLE VIII.—Summary of School Accidents which occurred during the Year 1924.

(Elementary School Children).

Number of Cases			Total Number of Attendances made by children at Clinic.	Number of cases where treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of cases referred to Hospital or Private Practitioner for further treatment.	Number of cases resulting in permanent disability.
Serious	Minor.	Total.					
5	78	83	335	78	11	5	2

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

ENTRANTS.																					
Number of Children medically inspected.												Number of Children found to have enlarged thyroid.									
Age 4		Age 5		Age 6		Age 7		Other ages.		Total		Age 4		Age 5		Age 6		Age 7		Total	
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
261	178	179	155	75	67	20	23	118	106	653	529	1	....	....	1	....	1	....	1	1	3

	Number of Children medically inspected.								Number of children found to have enlarged thyroid.					
	Age 8.		Age 9.		Other ages		Total		Age 8.		Age 9.		Total.	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
INTERMEDIATES	125	158	228	100	....	....	353	258	3	21	10	7	13	28
	Age 12.		Age 13.		Age 14.				Age 12.		Age 13.			
LEAVERS	157	236	189	103	1	....	347	339	13	55	17	15	30	70

GRAND TOTAL.			
Number of children medically inspected (All ages).		Number of children found to have enlarged thyroid. (All ages).	
Boys	Girls	Boys	Girls
1353	1126	44	101

TABLE X.

RESULTS OF INSPECTION AND TREATMENT OF SCHOLARS FINALLY LEAVING THE ELEMENTARY SCHOOLS.

Number of children finally left school during the year	Number of children for whom no report was available.	Number of children fully efficient for all industrial purposes.	Number of children partially efficient for industrial purposes.	Number of children inefficient
874	20	744	103	7

Defects from which children were suffering :—

Partially Efficient.	No. of Children
Defective Vision	33
Squint	5
Blind one eye only	3
Ear Disease	12
Spinal Curvature	4
Stammer	4
Heart Defective	12
Hearing Defective	8
Thyroid Enlarged	18
Cripples—Infantile Paralysis	2
Hernia	2
Skin Disease	1
Rheumatism	1
	105
Inefficient.	
Organic Heart Disease	4
Asthma	1
Glands—Tuberculous	1
Bronchiectasis	1
	7

HIGHER EDUCATION.

STATISTICAL TABLES.

Higher Education.

TABLE I.—Number of Children attending the Swindon Secondary Schools, Inspected 1st January, 1924 to 31st December, 1924.

A.—ROUTINE MEDICAL INSPECTIONS.

	AGE GROUPS.								TOTAL
	11	12	13	14	15	16	17	18	
Boys	21	65	72	47	52	36	13	5	311
Girls	10	30	31	4	8	6	4	6	99
TOTALS	31	95	103	51	60	42	17	11	410

B.—OTHER INSPECTIONS.

Number of Special Inspections	155
Number of Re-inspections	338
Total	493

TABLE II.—Return of Defects found in the Course of Medical Inspection in 1924.

DEFECT OR DISEASE.	ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
	No. of Defects.		No. of Defects.	
(1)	Requiring Treatment. (2)	Requiring to be kept under observation but not requiring treatment. (3)	Requiring Treatment. (4)	Requiring to be kept under observation but not requiring treatment. (5)
Malnutrition	2	....	1	....
Uncleanliness-Head	6	....	....	....
n—				
Non-tubercular Diseases	5	....	17	....
—				
Conjunctivitis	....	....	2	....
Astigmatism	12	2	....	....
Myopia	19	....	....	....
Blepharitis	5	....	....	....
Heterophoria	1	....	....	....
Hypermetropia	4	....	....	....
Defective Vision	31	1	3	....
Squint	8	....	2	....
Other Disease or Defect	3	....	1	....
—				
Otorrhoea	2	1	5	....
Defective Hearing	2	1	1	2
Other Conditions	2	2	....	1
se and Throat—				
Enlarged Tonsils	12	13	3	1
Enlarged Tonsils and Adenoids	....	....	3	....
Adenoids	....	....	....	1
Fractured Septum	1	....	....	....
Deflected Septum	1	3	1	....
Other Conditions	8	....	1	....
nds—				
Enlarged Thyroid	28	....	4	....
Enlarged Glands	1	....	3	....
ech—				
Defective	3	....	....	....
rt—				
Defective	....	3	2	1
tal Disease				
Decayed Teeth	95	....	6	....
gs—				
Defective	....	1	2	....
Pulmonary Suspected	....	....	2	....
vous System—				
Chorea	1	....	....	....
Asthma	1	....	....	....
Instability	4	....	1	....
ormities—				
Spinal Curvature	5	2	4	2
Other Forms	29	2	1	....
er Diseases or Defects	7	9	5	2

TABLE III.—Children failing to pass the "Edridge-Green Bead Test" referred for complete examination for Colour Blindness.

	Boys
Heptachromatic	16
Hexachromatic	....
Pentachromatic	1
Tetrachromatic	2
Trichromatic	1
Dichromatic	2
TOTAL	22
Deficiency of the both ends of the Spectrum	3
Deficiency of Violet end only	1
Deficiency of Red end only	2
Dangerously Colour Blind for Industrial purposes	5
Deficiency of no serious import.	....

TABLE IV.

Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments).

Defect or Disease. (1)	Number of Defects dealt with.					
	Under the Authority's Scheme			Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme. (3)	Otherwise. (4)	Total (5)
	Old	New (2)	Total			
Errors of Refraction (including Squint.)	17	14	31	....	6	37
Other Defects or Disease of the eyes (excluding those recorded in Group 1).	....	1	1	....	2	3
TOTAL	17	15	32	....	8	40

Total number of children for whom spectacles were prescribed :

(a) Under the Authority's Scheme 15
(b) Otherwise ....

Total number of children who obtained or received spectacles :

(a) Under the Authority's Scheme ....
(b) Otherwise 15

TABLE V.—Summary of Accidents which occurred to Secondary School Pupils, during the year 1924.

NUMBER OF CASES.			Total Number of attendances made by children at Clinic.	Number of Cases where treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of Cases referred to Hospital or Private Practitioner for further treatment.	Number of Cases resulting in permanent disability.
Serious	Minor	Total.					
2	48	50	182	50	14	....	....

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE VI.—Treatment of Defects discovered in Secondary School Children.—Year 1924.

DISEASE OR DEFECT.	NUMBER OF DEFECTS.					
	Referred for treatment.	TREATED.			Not Treated.	For whom no Report was available.
		Under Local Education Authority's Scheme.	Otherwise	Total		
Uncleanliness—Nits in Hair	6	....	6	6	....	....
Malnutrition	3	3	....	3	....	....
Skin	22	22	....	22	....	....
Vision and Squint	44	20	6	26	17	1
Eye Disease	47	43	2	45	2	....
Dental Disease	101	19	45	64	36	1
Ear Disease	9	9	....	9	....	....
Defective Hearing	3	3	....	3	....	....
Nose and Throat	30	18	4	22	8	....
Speech	3	....	2	2	1	....
Enlarged Thyroid	32	20	7	27	5	....
Enlarged Glands (Non-Tubercular)	4	4	....	4	....	....
Heart and Circulation	2	2	....	2	....	....
Lungs Defective	3	3	....	3	....	....
Nervous System	7	7	....	7	....	....
Deformities	39	36	3	39	....	....
General	12	10	1	11	1	....

Number of X-Ray examinations 3
Number of Bacteriological examinations 17

Wilts (C) Swindon 4
C

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Borough of Swindon.

Annual Report

OF THE

Medical Officer of Health

FOR THE YEAR 1924

BY

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Report of the Chief Sanitary Inspector

FOR THE YEAR 1924.

John Drew (Printers) Ltd., 51, Bridge Street, Swindon.

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BOROUGH OF SWINDON.

Health Committee.

Chairman—Councillor W. E. REEVES.

Vice-Chairman—Councillor G. H. HUNT

Members.

THE MAYOR (Alderman R. EVANS).

Alderman H. Martin
,, W. E. Morse
,, Mrs. E. C. Noble
Councillor A. H. Wheeler
,, C. H. Sandling
,, G. Davies
,, T. Manning

Councillor C. W. Boyce
,, A. E. Smith
,, G. W. Brunger
,, B. C. Weight
,, C. W. Leighton
,, A. W. Haynes
,, Mrs. M. George

Councillor A. E. Harding.

Maternity and Child Welfare Sub-Committee.

Chairman—Councillor Mrs. M. GEORGE.

Members.

Alderman H. Martin
,, W. E. Morse
,, Mrs. E. C. Noble
Councillor G. Davies
,, A. E. Smith
,, W. E. Reeves
,, A. H. Wheeler
,, C. W. Leighton
,, B. C. Weight
,, A. W. Haynes
,, A. E. Harding

Councillor C. W. Boyce
,, G. W. Brunger
,, T. Manning
,, G. H. Hunt
Dr. C. E. S. Flemming
Mrs. Arnold-Forster
Miss K. J. Stevenson
Mrs. E. Schmitz
Miss I. F. Moore
Miss D. P. Chappell
Mrs. Weston

Town Clerk—Robert Hilton, Esq.

BOROUGH OF SWINDON.

PUBLIC HEALTH DEPARTMENT.

Staff.

Medical Officer of Health, School Medical Officer, and Medical Superintendent of the Isolation Hospital.

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Assistant Medical Officer of Health.

MARION DRAPER, M.B., Ch. B., D.P.H.

Chief Sanitary Inspector.

A. E. BOTTOMLEY
Certificate of the Royal Sanitary Institute.
Certificate of the Worshipful Company of Plumbers.

Assistant Sanitary Inspectors

F. H. BEAVIS
Certificate of the Royal Sanitary Institute.
Certificate in Building Construction.

E. PARTRIDGE
Certificate of the Royal Sanitary Institute.
Certificate of the Royal Sanitary Institute for Meat Inspection.

Head Clerk.—W. FRANK MELLOR

Assistant Clerk and
Clinical Assistant—Miss I. M. DAVIS

Assistant Clerks—C. G. SMITH
H. J. PUGH

Health Visitors.

Miss M. HANNA
Certificate of the Central Midwives Board.

Miss M. JOHNS
3 years Certificate of Hospital training.
Certificate of the Central Midwives Board.
Queen's Nurse.

Disinfector—G. GREENAWAY.

Voluntary Helpers at Maternity Centres—

Mrs. E. SCHMITZ
Miss BEAVIS
Mrs. OSMOND

Mrs. WESTON
Mrs. NICKLIN
Mrs. HUMPHRIES.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have pleasure in presenting the Annual Report upon the health conditions prevailing in the Borough of Swindon during 1924.

The personnel of the department underwent no change during 1924 except for the appointment of a junior clerk in the sanitary department.

The health work of the Borough during last year was somewhat handicapped by sickness among the staff, and though this did not cause any suspension of any part of the work, it delayed the development of certain extensions which are desirable.

The year 1924, though generally favourable, was in certain respects less favourable than its predecessor. The infantile mortality, child mortality and general mortality were higher than last year, though the two former rates were lower than those of any year, except 1922 and 1923, and all three rates were considerably below those ruling for the country generally.

It will be shown that the cause of this less favourable condition can be ascribed to whooping cough, which was very prevalent and very fatal. On the other hand those diseases which are controlled, with the exception of pneumonia and tuberculosis, had scarcely any influence upon the lives and health of the citizens. The increased mortality rates for 1924 were by no means peculiar to Swindon, but ruled generally throughout the country, and the relative position of Swindon to the other great towns of England and Wales was as favourable as is generally the case. Yet with its drawbacks 1924 was still a year of considerable progress in almost every department. Many important measures dealing with the sanitary state of the town were either carried through or were put upon the local Statute Book to be enforced immediately. These will be referred to later as they are exceedingly important and mark a great step forward in progress. An important Order from the Central Government dealing with the meat supply was issued on the first day of 1925 which will materially strengthen our hands in dealing with this important question.

The meteorological conditions of 1924 were really not so unfavourable as unpleasant. Locally it was one of the wettest years of the century, and one of the most sunless, but on the other hand its temperature was remarkably equable. The late Winter was very unfavourable, and the repeated cold sunless periods in February and March had a distinctly evil influence upon the health of the population. In fact, the first quarter of the year gave rise to considerable anxiety, but fortunately the remainder of the year was favourable, reversing almost entirely the evil augury of the earlier months.

SANITARY CIRCUMSTANCES OF THE DISTRICT.

As a complete review of all the sanitary activities and circumstances of the town will be required by the Ministry of Health in the Annual Report for 1925 it is only necessary this year to make brief references to work actually carried out or in progress during 1924.

The sewage works at Rodbourne which had been completely reconstructed under the supervision of Mr. Midgeley Taylor were completed early in the year. Some improvements in the disposal plant at Broome were commenced in the latter part of the year. No reconstruction of these works is in contemplation, or is indeed called for, but certain improvements and additions have become advisable and these are being attended to.

The storm water scheme for the newer part of the town was completed during 1924 and has proved successful ; notwithstanding the wetness of the year, and the frequent excessive rainfalls, no flooding in the lower part of the town was recorded during the year.

The alterations and additions to the waterworks at Ogbourne could not be completed as was anticipated owing to the wetness of the season, but considerable progress was made and little more remains to be done.

During the year the question of the collection and disposal of house refuse was reviewed and towards the end of the year it was decided to be put into operation very material improvements upon present methods. The provision of sanitary dustbins will now be insisted upon, thereby removing one of the great eyesores of the town, and putting an end to a system which is not consistent with health or economy. The year 1925 should see a reorganised method of dealing with house refuse, from which the town will benefit considerably on aesthetic, sanitary and financial grounds.

A complete reorganisation of the public lavatories in the town is now accepted as a policy, and a start in the drastic reforms necessary will be made early in the new year.

The canal is now practically filled up, but the question of its final evolution is not yet decided.

The solution of these last three problems—the collection and disposal of refuse, the reform of the public lavatories, and the abolition of the old canal will remove three blemishes from Swindon which have prevented the town from obtaining the status among the cities of the country which its population and industry entitle it to hold.

WATER SUPPLY.

Swindon did not suffer from lack of water during 1924, nor did any trouble arise in the water supply except on one occasion when an excessive quantity of chloros found its way into the mains. Steps have been taken to render such an occurrence practically impossible in the future. The water supply of the town is now excellent, both in quality and in quantity, and is not causing any anxiety to the Public Health Department.

FOOD SUPPLY.

Except that it was found necessary to condemn as unfit for food an unusually large number of carcases, the food supply of Swindon during 1924 presented no problems of Public Health importance.

HOUSING.

299 new houses were erected in the Borough during 1924. The Corporation housing scheme is entirely without the Borough. The development of Swindon must now, in the main, take place without the Borough boundary and a considerable number of new houses, apart from the Corporation scheme, were erected in the contiguous district. But the housing shortage does not diminish. The problem of overcrowding remains as bad, if not worse, than it has ever been ; and it is necessary to consider new methods by which the poorer classes of the town can be enabled to find shelter. With the exception of the Corporation houses, none of the new property that has been recently erected is available for letting, and so does practically nothing to solve the problem of overcrowding. We are fortunate in Swindon in having an unusually large number of owner occupiers, but we have, and shall always have, a much larger proportion of the population who can never be owners, and who must find accommodation in premises that they can rent.

The position of the larger families becomes relatively and actually worse with each succeeding year. Obedience to the first commandment given to mankind, long since discarded as a social virtue, is rapidly becoming the most heavily punished of all crimes. The position of the majority of the large or even averaged-sized families in the town is one of social misery ; nor is it surprising that there is a tendency for them to sink below a reasonable standard of civilisation, when they have to rear children under conditions in which they could not keep pigs without fear of prosecution. The evils of the overcrowded condition of the larger families is a question to be considered, not only from the view of humanity and health, but from the larger standpoint of the progress and development of mankind. From the distribution of the births that occurred in Swindon it appears that the inhabitants of the better class property are almost sterile, and must undergo a process of extinction. The lack of fertility spreads steadily downwards, so that the future race must be recruited from the lower strata of society, and it is imperative that these should not be brought up under conditions which render it impossible for them to appreciate, or even to know of, civilised methods of living and decency.

It is, of course, impossible to put into operation any of the provisions for dealing with overcrowding, for to turn families out of overcrowded tenements, is merely to throw them into the workhouse, which adds to their degradation, or to discharge them into the gutter, where, though they would be better off from the point of view of health, they would give rise to some inconvenience.

Candidly there is little improvement in the housing conditions of the town that is not fictitious.

CONTROL OF INFECTIOUS DISEASE.

SCARLET FEVER.

In the Annual Report of 1923 attention was drawn to certain matters in connection with scarlet fever. It was then pointed out that there were strong reasons for altering the official procedure of dealing with this disease and that certain evidence which had been obtained rendered it advisable to adopt a totally new scheme, at all events on trial. It was possible to commence this scheme in July, 1923, and scarlet fever, which had been in epidemic form for some years, declined rapidly. The scheme in its entirety was not workable until the beginning of 1924, but by the end of February, 1924, it was complete. At that time the only known infectors which were left in the Borough were two ; all other suspects had by a combination of luck and management gone to reside in other districts. One therefore felt that if the conclusions arrived at in 1923 were accurate, Swindon was free from endemic scarlet fever with the sole exception that there were two citizens that required to be watched, (which for convenience we will call ' A ' and ' B '), and that scarlet fever would not occur again in the Borough save from these two citizens ' A ' and ' B . or from importations from without, which should be traceable. Since that date, viz., for the last ten months of 1924, 11 cases of scarlet fever occurred in the Borough. The first case which occurred in March was traced to infector ' A.' The second case which occurred in May was not traced. We then had an interval of complete freedom. In the middle of June, 3 cases occurred. These were all severely septic in type and one of them died. These cases were traced with certainty to an infector from London, who had been living with the first case for a day or two. This infector was quickly returned to London and that outbreak ceased. We were then quite free until October 24th, when a case occurred at the extreme end of the Borough. The infector in this case was not traced, but scarlet fever was prevalent in the surrounding district. In November, 4 cases occurred in the same district, all of which were connected together and a fifth case occurred, traceable to infection from the citizen named ' B.'

The history of scarlet fever during 1924 apparently sub-tantiates the statement made in the Annual Report for 1923, but caution is necessary. In the first place, the whole may be a pure coincidence. This seems unlikely, for since the Incorporation of the Borough, scarlet fever has always been endemic in Swindon, and no period of freedom from infection for more than a month had occurred previously. An important consideration is that what is held to be true of scarlet fever in Swindon at the present ime may not hold for the same disease everywhere and under ll circumstances. For, as we know the disease is one which ndergoes marked changes of type, it is quite likely that as the ype varies, so also may the incubation period and the method f spread vary with different epidemics. Still it is worth while tating concisely the theory which underlies our present practice. t is this: scarlet fever is not generally infectious, save in the rst day or two, but certain persons possess the capacity of re-naining infective for unlimited periods. These infectors have lways had scarlet fever at some time previously, but from that hey have recovered completely, leaving no sign whatever by hich they can be detected at present. In order to find out these preaders it is necessary to establish within narrow limits the ncubation period of the disease and to work at a time when the isease is at a low ebb. It was possible to define the incubation eriod within the limits of 60 to 80 hours, and by a somewhat xhaustive enquiry to alight upon suspected spreaders. As has been said, all suspected spreaders except two had left Swindon by the end of February, and so an almost clean slate was available for obtaining evidence as to whether the theory propounded was substantially true.

During the year 20 cases of scarlet fever occurred (against 164 in 1923 and 257 in 1922), of which 9 occurred in the first two months. 1 case ended fatally. At the end of the year Swindon was completely free, the last case having occurred on the 17th November, and the two suspected citizens ' A ' and 'B ' had received treatment which not impossibly may free them from the power of infection. There is no other known spreader in the town.

The evidence obtained obviously indicates that the methods adopted during last year should be continued for further trial. It must not be supposed that even should the ideas which underlie this system be proved conclusively scarlet fever will not occur in the Borough again. This clearly is not to be expected, for the influx of persons into the town must from time to time introduce spreaders from without, and these would be expected to give rise to cases in the town. It should, however, prove possible to trace these, and probably to prevent them spreading. It must also be remembered that Swindon Borough is not now an isolated unit, but is surrounded by districts where scarlet fever is far from infrequent. There may be spreaders actually resident just outside the Borough boundary of which we know nothing, not is it improbable that some such spreaders may be attending schools within the Borough. The last cases which occurred in November, certainly suggest that there is one or more spreaders in that part of Swindon which lies without the Borough along the Cricklade Road.

Also it must be understood clearly that in order to give this theory a fair chance it was necessary to get removed from Swindon as far as possible all known spreaders. It has been stated that with two exceptions, by a mixture of luck and management, it was possible to do this at the beginning of 1924; but it must be remembered that we have no official power to deal with spreaders at all, and that should another spreader of bad type become resident in Swindon, we cannot deal with him officially. The chief means that were adopted for ridding the Borough of suspected spreaders will not be available in future ; and so, even if these views on the method of spread of scarlet fever be correct, the return of scarlet fever as an endemic disease of the Borough in the course of time can be predicted, unless it becomes possible to introduce legislative machinery to deal with scarlet fever upon the lines that our investigation would suggest to be desirable. Even if the theory propounded is proved up to the hilt no such legislation can be expected within the present generation.

DIPHTHERIA.

In January, 1924, an epidemic wave of diphtheria spread over Wiltshire from West to East. It had apparently originated in the South Wales Coalfield, and in the West of Wiltshire manifested considerable virulence. When it reached the area contiguous to Swindon, it had lost its virulence, and the cases which occurred in the Borough itself were quite trivial. It did not prove very difficult to free the Borough, but the disease remained in the contiguous areæ in a more or less smouldering form, and a case or two occurred in the Borough itself from time to time. But in October the disease burst out with considerable strength, and rapidly spread to the Borough giving rise to very great anxiety. The centre of this epidemic was not in the Borough itself, but some two miles from the boundaries, and was being spread into the Borough through the unusual medium of workmen employed in Swindon, but living without. At the end of the year it had ceased in Swindon altogether, and was rapidly dying down in the neighbourhood. This epidemic presented many unusual features. So far as Swindon was concerned not a single fatal case occurred, and very few cases that gave rise to any great anxiety. A most unusual proportion of the patients were adult males, and of the children infected all were traceable to adult male infection. This age incidence probably accounts for the mildness of the disease, and the absence of fatal cases. Clinically the cases were most unusual. Tonsillar, peri-tonsillar and post-pharyngeal abscesses being common and heart failure and paralysis being absent. So unusual were the cases that virulence tests were performed to find out if the organism present was the true diphtheria bacillus. In most cases it was. In some of the cases which occurred in the Spring, the organism was not virulent. During the height of the epidemic in Swindon, which was in November, a large number of contacts, almost all adults, were found positive on culture, but in no case was any real difficulty experienced in freeing these contact throats from virulent bacilli. Altogether 60 cases occurred, a larger number than has occurred in any year in Swindon since it had been stamped out as an endemic disease in 1921. But for the first year in its history, no death from Diphtheria occurred in the Borough.

ACUTE INFECTIOUS DISEASES OF THE CENTRAL NERVOUS SYSTEM.

4 cases of encephalitis lethargica and 3 cases of acute poliomyelitis were notified during the year. Of the encephalitis lethargica notifications, two were withdrawn and 2 were genuine cases of that disease. No cases of polio-encephalitis nor of cerebro-spinal meningitis were notified. In addition 4 deaths occurred

from tuberculous meningitis and 1 from meningitis of uncertain origin. This list is a small and highly satisfactory one, but unfortunately it is only part of the story. 2 deaths occurred, which though certified as due to other causes, were almost for certain due to some form of infective meningitis, and a considerable number of children were seen suffering from paralyses and other severe nervous and mental conditions unquestionably traceable to recent acute nervous infections.

The acute infections of the nervous system present a formidable and difficult problem. They are much more common than would appear from any table of notifications, and though individually not very numerous they are in the aggregate considerable whilst their high mortality and even more distressing partial recoveries, render them particularly worthy of attention from the point of view of prevention. It is possibly that the future may see some improvement in the treatment of these diseases, and it does not seem impossible that means for their prevention may be discovered though the obscurities which surround them are great. Some of them are notifiable and some are not. But since all are obscure, always difficult to diagnose, and, in the majority of cases impossible to differentiate clinically during life or until the acute stage is over, most of those which are notifiable are not in fact notified. The only way in which this difficulty could be overcome would be to make ‘ Meningitis,’ as such, a notifiable disease, and so shift the responsibility of differentiating the various forms of this condition from the practitioners to the Public Health Department. In most cases such differentiation can only be made by bacteriological and pathological investigation, which cannot be carried out in the course of general practice. How great a discrepancy exists between the numbers of cases notified and the numbers that actually occur may be guaged from the following : during the course of one week the Medical Officer of Health saw in the school and child welfare departments, 9 cases of permanent damage to the nervous system which had resulted from recent acute nervous infections, not one of which had been notified.

OTHER NOTIFIABLE DISEASES.

No case of smallpox was notified in the Borough. A number of somewhat unusual cases of chicken pox were seen in which the question of smallpox had to be considered, but in every instance it could be dismissed at once. Chicken pox was notifiable in the Borough during January and part of February. It had been notifiable during practically the whole of 1923, but the experience gained is that locally in Swindon, even in time of threatened smallpox this provision of making chicken pox compulsorily notifiable is not likely to be of much help.

14 cases of erysipelas and one case of malaria of continental origin, were notified, but dysentery, enteric fever and typhus were absent.

PUERPERAL FEVER.

3 cases of puerperal fever were notified. In one case the diagnosis was withdrawn ; one case, not a Borough case, infected before admission into hospital, occurred in the maternity hospital and was promptly removed to the fever hospital. The third was a Borough case, delivered in her own home and she was removed to the fever hospital.

PNEUMONIA.

There were 175 notifications of pneumonia in the Borough during 1924. This is the highest number ever notified, and though the disease was more than usually prevalent in Swindon during the year, the notification statistics cannot be used to estimate its real incidence ; because this is the first year in which notification has been carried out in a manner which is completely satisfactory. Though, doubtless, some slight and abortive cases escape notification, and a few cases of terminal pneumonia, not strictly notifiable, are in fact notified, we feel that the notification of pneumonia in Swindon is as complete and accurate as it is possible to obtain for any disease. This is a most important point : for a very determined action is being made locally to limit the ravages of this disease, and satisfactory notification is the first essential to enable us to obtain evidence upon which to proceed. The Order under which pneumonia is made notifiable is not easy to interpret. According to the Order primary and influenzal pneumonia are notifiable, but secondary pneumonia is not. Precisely what meaning is to be given to the words ‘ primary ’ and ‘ secondary ’ is open to question, so that the interpretation of the Order must be somewhat elastic. Of the 175 cases notified 31 were removed to hospital, and of these 5 died, giving a mortality of slightly over 16 per cent. 144 cases were treated elsewhere than in the hospital, and of these 57 died, giving a mortality of rather more than 46 per cent. The difference in the mortality between those treated in hospital and those treated at home is about what was anticipated.

The deaths attributed to pneumonia (after scrutiny) which occurred in the Borough were 75 ; this disease standing first amongst all causes of death among the citizens of Swindon. These deaths may be classified as follows :—

Primary Pneumonia	35
Pneumonia, secondary to Whooping Cough	8
Pneumonia, secondary to Measles	7
Pneumonia, secondary to Influenza	9
Terminal Pneumonia	16

Terminal pneumonia is of no Public Health interest, but the pneumonias secondary to other infections are of prime interest, for the mortality from them is very considerable, and there is strong reason to believe that it may be reduced to a small fraction of what it is at present. Our experience locally, especially in connection with the pneumonia that follows whooping cough or measles, is that given good hygienic environment and nursing, death is infrequent, but that in the circumstances which rule in most households in Swindon death is almost invariable.

TUBERCULOSIS.

There was little change in the position of the Borough in regard to tuberculosis. As can be seen from the table in the appendix there was little difference in the various items except in regard to deaths from tuberculous meningitis, which in 1924 were only 4 against 12 in 1923, the highest on record. The total deaths from tuberculosis were also the lowest since 1914, which for the first time brings our Tuberculosis Death Rate below 1 per 1,000.

Some new Regulations come into force on the 1st January, 1925, which will give stimulas to certain promising fields in the investigation of this disease which up to the present have not been properly explored. Particularly faulty is our knowledge of the bridge over which we pass from childhood where various forms of tuberculosis are common, but chronic tuberculosis of the lung is almost unknown, to that period when other forms of tuberculosis become rare, and chronic pulmonary tubercle is most prominent. There are strong reasons for suspecting that the tuberculosis of the adult results from an infantile infection which remains dormant, and if this is so there should be some means by which we could recognise the tendency before the disease becomes manifest. If we could establish this we might also be able to guarantee that we should find some measures for limiting materially the ravages of this disease.

NON-NOTIFIABLE DISEASES.

VENEREAL DISEASES.

Locally there is considerable improvement in the position of the population as regards venereal disease. The provision afforded by the Venereal Centre is better utilised and cases tend to remain longer under treatment. The disease also is decidedly less prevalent, at all events among women and children. The lower incidence of ophthalmia neonatorum is a proof of this, and cases of congenital syphilis were also less frequent than they had been in recent years. The great difficulty in connection with chronic gonorrhoeal infections in married women is gradually being surmounted, but much still remains to be done.

CANCER.

The position of cancer is about stationary. As the younger population grows older into the cancer ages we shall have information of the life history of cancer patients and this may throw some material light upon the antecedent factors which precede the development of the disease. But such information will not be available in any bulk for the next twenty-five years at least.

Chicken pox and mumps were very prevalent in Swindon during 1924 and played some havoc with the school attendance, but otherwise produced nothing of Public Health importance. Measles, however, was more serious. It was extremely prevalent and though generally its virulence was slight, it caused 8 deaths.

Whooping Cough was extremely prevalent and very fatal. 17 deaths for certain and probably more can be attributed to this disease. It was the most striking factor in the Public Health of the town during 1924.

There is, perhaps, no disease in which the position is more unsatisfactory than it is with whooping cough. Of itself it is not a killing disease, but it is frequently complicated by respiratory complications which are extremely fatal, particularly among toddlers. Yet there is reason to think that this fatality can be reduced very materially, because amongst cases of whooping cough, complicated by pneumonia which are treated in hospital the mortality is under 20 per cent—whereas amongst those treated in their own homes the mortality is between 80 and 90 per cent. In Swindon, hospital provision is made for complicated cases of whooping cough, but it is not utilised to the extent that is desirable. Nearly all the cases that are admitted are so because the medical attendant despairs of recovery ; commonly we are asked to remove cases where we are told that it is doubtful if the child will live through the removal. But usually it is found that, though the condition appears hopeless when the child is seen at home, after he has been removed to hospital and placed in proper hygienic surroundings the danger is past and recovery can be expected. It might be asked why the position in regard to whooping cough and measles, especially the former, is so far less satisfactory than that of diphtheria and scarlet fever, and why the means for suppression which have been found successful in the two latter diseases are not applied to the two former. The answer is simple. Scarlet fever and diphtheria are notifiable diseases, and *they are actually notified* so that the health authority becomes cognisant of the first cases that appear after a period of freedom. In a town where periods occur from time to time of complete freedom from disease, and notification is rigidly carried out, it happens not infrequently that the first cases of re-appearance are traceable and their method of propagation, periods of infectivity and incubation periods can be settled within reasonable limits of probability ; these though they may not be constant to the disease everywhere and under all circumstances, are generally found applicable to the particular local epidemic which is starting. The health authority will know practically nothing of measles and whooping cough epidemics until they have assumed such proportions as to interfere seriously with school attendance or until fatal cases have occurred. It is then too late to hope to find out anything about the disease. From time to time measles and whooping cough have been made notifiable, but always under conditions in which the notification was useless. Even if these two diseases were made compulsorily notifiable under all circumstances, (which in the interests of Public Health they most certainly should be) some years would elapse before notification was carried out sufficiently systematically to be of value. It may be stated emphatically that in regard to epidemic disease, notification of some kind must be the first step before it is worth while attempting to find out anything definite about its method of propagation. The value of the notification of disease has been questioned on several grounds, but its real material value is always overlooked by those who oppose it ; it being generally taken that the value of notification is to enable disinfection to be carried out. It may be doubted if anyone who understands infection would defend notification upon this basis alone. The real value of notification is to afford the health authorities information of the advent of epidemic disease, so as to enable their staff to gain the requisite information upon which the nature and method of spread of the infection can be determined and utilised to prevent the epidemic from spreading.

BACTERIOLOGY.

The work of the bacteriological department increases steadily and it will continue to increase until a better system can take its place, and this can only happen when Swindon possesses a complete hospital unit. Of the value of the department as it now stands there can be no question as it allows the benefit of modern research to be utilised for the citizens of the town, whereas were it non-existent such benefits would be unprocurable by a large proportion of the citizens. The details of the work done appear in the appendix.

MATERNITY AND CHILD WELFARE.

The scheme of Child Welfare in the Borough of Swindon has been in a stabilised condition for the past three years, and the problems in connection with it still awaiting solution are of a technical rather than of an administrative character. Between

90 and 95 per cent of all the children in the Borough attend the clinics so that the actual numbers dealt with will not now vary much from year to year ; though as research adds steadily to our knowledge of child life, the actual work required for each individual child becomes more lengthy and more complicated. The success of the Child Welfare system in Swindon is really the outcome of the ideal which was accepted at its commencement, which was "to guide the child through all the stages of its development and, where necessary, to supply it with all the benefits that the state of medical knowledge will allow." It was thought by some that this scheme was too idealistic to be capable of being carried into effect, and that it would fail because the cost would be excessive, the amount of work impossible of achievement and the social conditions too obstructive. But our experience has proved that all three objections were groundless. The expense of the system is surprisingly small ; considerably less than obtains with schemes of a much less complete nature ; the work entailed is far less in working a scheme which is a single unit than it would be if it were a series of isolated factors ; and the social obstruction which was anticipated does not exist.

It must be admitted that to deal with 15,000 children and their respective parents entails a very great amount of work, but the very extent of the work has reduced almost to nothing the amount of trouble and obstruction that would have to be overcome in a smaller scheme. As a matter of fact, the number of complaints and objections met with in the course of work do not reach an average of one a month. The central point in the achievement of the ideal aimed at is a continuous clinic open at all times and to all children. No distinction is made either for age, social condition or physical state; all can be attended to at any time. There are, indeed, certain special clinics held at fixed times to which children are referred when necessary, but with the exception of routine dental inspection and treatment all children referred to special clinics will have been seen beforehand.

We have therefore in Swindon no divorce between the Infant Welfare Department and the School Medical Department, and following from this the question of the toddler ceases to become an administrative problem, for he is catered for in exactly the same way as the infants and the school children. The excision of school children from the Public Health Department, which is necessary at present, is, in Swindon, purely a matter of book-keeping. With us the indivisible unit is the child's life, and it is attended to without interruption from the day its birth is notified until it enters industry. This saves a vast amount of work by preventing reduplication and effects a large saving of unnecessary stationery and clerical work. As a result of our scheme the toddler receives the same attention as children of any other age, relieving us of the great problem which confronts any scheme which separates infant welfare and school medicine ; a point of great importance for the toddler presents medical problems of his own, and his study explains much which is obscure in school medicine.

An epitome of a communication from the Medical Officer to the Swindon Council which appears in the appendix will give some further idea of our local method of dealing with the health of the child.

The medical supervision of children registered under the Children Act is accepted by us as part of our duties, for though the Guardians and not the Health Authority are responsible for these children it is found that a great saving of expense and overlapping of effort is effected by the arrangement in force here.

SWINDON MATERNITY HOSPITAL.

The Maternity Hospital has reached its full value and the work tends to exceed its capacity.

The official accommodation of the hospital is 11 beds and 2 isolation beds. The ante-natal department has been removed from the hospital itself and the room formerly occupied for this work has been converted into an emergency labour ward. This re-arrangement made it possible to add two emergency beds to the accommodation but the officially recognised accommodation is still 11 beds. There are, therefore, 4,015 bed-days available and during the past year 2,976 of these were utilised. This means that throughout the year the hospital was worked at an average of 75 per cent full, which is the maximum which any hospital can take without risk. On many occasions the hospital has been full ; in fact now there are generally 10 or more patients in hospital. The hospital serves both the Borough and the County. During the year there was an increase in the call for County beds of 150 per cent over 1923 and an increase in the call for Borough beds of about 30 per cent ; there is reason to think that if more accommodation were available there would be a considerably larger call on the part of the Borough, and we know that there will be a much larger call for County beds when the appreciation of the available provision becomes more diffused in the rural districts.

The scale of fees chargeable for Borough cases was revised in 1923. The revised scale has proved acceptable to the patients, and has to a large extent contributed to pay for the institution. The working expenses have also been curtailed so that at present the call upon the public purse for the support of the Maternity

Hospital is small. Some further curtailing of the cost and some increase in the fees recoverable can be anticipated ; but the institution can never be completely self-supporting without defeating its main object, which is to offer relief to those who cannot afford to pay ; in the public interest it is essential that poverty shall be no bar to the saving of the lives and health of the citizens.

The hospital has proved to be a most excellent provision. For normal cases such an institution was urgently called for in Swindon where housing accommodation is very short and for abnormal cases it offers the only place where difficult deliveries can be carried through with any degree of safety.

Amongst the more serious cases dealt with during 1924 were three cases requiring caesarian section 1 of placenta praevia, 2 of ante-partum heamorrhage, 5 of toxaemia of pregnancy, 1 induced labour and 1 of hydramnois. It is very satisfactory that no maternal death occured during the year.

The chief administrative difficulty in connection with the hospital is the comparatively large number of emergency cases. It is easy to arrange accommodation for cases that are booked beforehand but unbooked cases have a tendency to come in runs so offering difficulties. Many of these emergency cases might very easily have been booked beforehand as the complications that did occur were anticipated. It is only a minority of cases which are true emergencies, viz., presenting complications which could not have been foreseen.

OPHTHALMIA NEONATORUM.

The number of cases of this disease notified in the Borough during 1924 was 15, or less than half of that of the preceding year (34). In addition to the notified cases, 12 cases which were not notified also came under observation. This number is also considerably less than that for last year. Every case, both notified and non-notified, was treated throughout by the Public Health Department.

Treatment at the Child Welfare Clinic.

9 notified cases and 8 non-notified cases were treated at the Child Welfare Centre. Bacteriologically all the notified cases were caused by gonococcus, and of the non-notified cases 1 was caused by gonococcus, 3 by pneumococcus, 2 by bacilli, 1 by streptococcus and 1 was sterile. All were cured without injury to the sight. 2 are still under treatment but the sight is not in danger. The treatment of these cases involved 168 consultations and 309 attendances, besides numerous home visits during the acute stage.

TREATMENT AT THE MATERNITY HOSPITAL.

6 cases of ophthalmia occurred amongst children who were born in the Maternity Hospital. Of these 2 were notified and 4 were not notified. The two notified cases were caused by gonococcus and of the others 1 was caused by streptococcus, 1 by pneumococcus and the others were sterile. All the cases but one of the notified cases (a child not belonging to the Borough) were treated throughout at the Maternity Hospital. All cases recovered without injury to the sight.

TREATMENT AT THE GORSE HILL V.D. HOSPITAL.

4 new notified cases from Swindon Borough, 2 new notified cases from districts outside Swindon, 2 old notified cases from Swindon Borough and 1 old notified case from without the Borough —or 9 cases altogether, all notified—were treated at the V.D. Centre during the year. All were caused by gonococcus. All but one recovered completely without injury to the vision. One case from Malmesbury was admitted into the hospital when the child was 25 hours old. On admission the left eye was hopelessly lost and the right eye was so severely damaged that any retention of vision was despaired of. However, after some months' treatment a very fair degree of vision was preserved for the right eye. 4 of the cases were treated as inpatients and the rest as outpatients. The outpatients made 106 attendances; the inpatients were in hospital 123 days.

This is the third year in which the special administrative machinery for dealing with ophthalmia neonatorum has been in full working order, and it is the third year in succession in which no Swindon-born child has been blinded by this disease. Formerly, so far as can be ascertained from children who survive, an average of 2 children suffered total loss of sight every year in the Borough from ophthalmia neonatorum. The special measures for dealing with this disease in Swindon were the outcome of a complete exploration of the problem undertaken in 1921 by the Medical Officer of Health of the Borough and the County Medical Officer. It was obvious that no complete success could be attained unless these two officers acted together in complete harmony. It will be seen from the returns above that the Medical Officer of the Borough deals with ophthalmia neonatorum cases which do not belong to the Borough itself; on the other hand the County Medical Officer, who is responsible for the midwifery service, has considerable interest and anxiety in this disease. It is pleasing to have to report that during the three years that this machinery has been in operation there has been no hitch of any kind, no friction with any parties concerned and no real difficulty in carrying out its provisions ; except the strenuous hard work that the treatment of this formidable disease engenders. It is still more satisfactory to record that every case that does occur receives adequate treatment, and that it is almost, if not quite, impossible for any case of the disease to escape detection. That complete success should have followed these measures and that blindness from this disease would become eliminated was confidently expected, and our experience so far proves that this confidence was not unduly optimistic. The only difficulty in connection with the problem is the enormous amount of work that may be entailed in treating severe cases. A really bad case requires continuous attention throughout the twenty-four hours for a week or longer, and this may involve almost the entire work of one nurse and perhaps half a dozen or more consultations with the Medical Officer in each twenty-four hours. Yet this cannot be curtailed. One is faced with the proposition of giving this attention or with dealing with blindness and no one could possibly question which is to be preferred.

There are certain problems in connection with ophthalmia neonatorum which may be referred to here as our experience might prove of value to other authorities. Gonorrhoeal ophthalmia generally develops about the third day of life at a time when the midwife is still in attendance, so that the disease is little likely to escape notification if the midwives are properly trained to their work. But there is another form of gonorrhoeal ophthalmia of the new-born which does not develop until the tenth or eleventh day and so may occur after the midwife has left the case. These late cases are frequently more serious than the early cases. They do not produce the same amount of discharge nor the severe swelling of the lids which occur in those cases that develop early ; but the cornea is attacked at the onset and the complication of irido-cyclitis without perforation occurs. These late cases somewhat resemble the gonorrhoeal ophthalmia that is met with in adults, with the unfortunate exception that they are usually bi-lateral. It has been found that amongst blind school children more have lost their sight from this late form of gonorrhoeal ophthalmia than from the more common type which develops early. The problem of these cases is therefore one of exceedingly great importance, and any scheme of dealing with this disease must make certain that these cases do not escape detection.

Another point of importance bears on the question of the prophylactic use of salts of silver in new-born children. Against its use may be urged two considerations : firstly that the use of prophylactics generally is liable to produce a false sense of security and lead to carelessness ; and secondly ; as regards the actual prophylactics that are used against ophthalmia neonatorum, *i.e.*, preparations of silver; these are open to serious objection on behalf of the injury they may do to the cornea. As regards nitrate of silver, my experience, which is a somewhat large one, is definitely that it does more harm than good, especially in these days when one is able to hold a watching brief over all new-born children. As regards Argyrol, Protargol, Collosal Silver, etc., the objection is much less, but apparently their preventive action is less also. The evidence is pretty definite that prophylactics fail; for cases of ophthalmia, both gonorrhoeal and otherwise, have occurred in the Maternity Home in spite of the use of a prophylactic. There are two probable explanations as to why a mild silver preparation does not prevent the development of ophthalmia. The first is that, presuming the eyes become infected with gonococcus during delivery, the organisms which might lodge on the cornea, lower lid or the moveable part of the upper lid would be rapidly swept away by the tears, and that it is only such organisms as might find their way into the fornix that would have any chance of survival. A drop of silver solution instilled into the eye does not reach the fornix, and so leaves the danger spot untouched. In support of this it may be mentioned that in the treatment of early acute ophthalmia rapid success depends entirely upon the cleansing of the fornix. Another possible explanation for the failure of prophylactic measures is that the infection of the eyes may not occur at delivery, but at any time during the puerperium. Judging from the time of occurrence of ophthalmia neonatorum, which is often delayed until ten or more days after birth, late infection is probably not uncommon, and, of course, this would be in no way prevented by prophylaxis carried out immediately after delivery.

This is not the place to discuss the treatment of disease, but in connection with ophthalmia neonatorum a plea might be urged for the extended use and study of the influence of gonococcal vaccines. In two of the most formidable cases dealt with in Swindon during the past year gonoccocal vaccine was used in a way which is not generally adopted, and it produced a remedial effect which the author has never seen under any other form of treatment, viz., the rapid healing of corneal ulceration during the acute stage of the disease without perforation occurring. Under more ordinary forms of treatment, corneal ulcerations heal rapidly after perforation even in the acute stage, but if perforation occurs the eye must be either totally or partially destroyed. As soon as the acute stage is over, corneal ulcerations heal rapidly enough under all circumstances, but the healing of ulceration during the acute stage does not generally occur and this is quite as important in the prevention of blindness as is the prevention of ulceration occurring at all; for however perfect the organisation may be for getting all cases under treatment at the earliest possible moment, one will still meet with cases in which ulceration is already present.

INFANTILE MORTALITY.

DEATHS BEFORE THE END OF THE FIRST DAY.

7 infants died before they were 24 hours old. (4 males and 3 females). 6 of these infants are reported to have been premature. One of these deaths was not certified either by a medical man or by the coroner. 2 cases were undoubtedly due to congenital syphilis, and one was caused by congenital heart disease. No satisfactory explanation of the other four deaths is available. One of the cases was illegitimate.

DEATHS BETWEEN THE END OF THE FIRST DAY AND THE END OF THE FIRST WEEK.

13 infants (7 males and 6 females) died between the end of the first day and the end of the first week of life. All were legitimate. 9 were said to be premature. One only was breast-fed. 2 died from congenital malformations ; 1 certified as having died from meningitis, was a case of anencephale and may be included with the two former; but in the remaining 10 cases no really satisfactory causes for death could be ascertained.

NOTE.—Prematurity is acceptable on legal grounds as a cause of death, but it is not acceptable on scientific grounds, as many premature infants do quite as well as full-time infants. It is not the fact of prematurity but the cause of prematurity which it is important to elucidate.

DEATHS FROM THE END OF THE FIRST WEEK TO THE END OF THE FIRST MONTH.

9 deaths occurred during this period (7 males and 2 females). All were legitimate. 6 were breast-fed and 3 were artificially fed. 2 died from spinal bifida, (one operated upon and one not) ; 1 died from ill-feeding ; 1 died from congenital syphilis ; 2 were premature infants weighing only 2½ lbs. at birth, and in 3 cases no satisfactory explanation of death was obtained.

Of the 29 deaths which occurred before the end of the first month, 6 died from congenital malformations. Though possibly one or two of those which were operated upon might have been saved one is justified in saying that these six were deaths theoretically unpreventable.

17, or over 50 per cent of the deaths, cannot be satisfactorily explained. In other words we do not know what caused the death of these children, so that whether they were theoretically saveable or not cannot be told.

Of the 6 remaining deaths which were satisfactorily explained, 4 at least were theoretically preventable.

It must be understood clearly that the above analysis of the deaths occurring in the first month of life is a scientific and not a social study. It is not suggested that any of these deaths could, in the present state of our knowledge, have been prevented; nor that had all these 29 children had the best possible attention and treatment that was available in 1924, the result would have been different; but it is submitted that as research is made into the subject, a time will come when most and possibly almost all of this mortality will be preventable.

DEATHS BETWEEN THE END OF THE FIRST MONTH AND THE END OF THE FIRST YEAR.

29 deaths (17 males and 12 females) occurred between the end of the first month and the end of the first year of life. These deaths may be divided into two classes—those of children who had attended the clinics and whose life history is known and those about whom information was only obtained after death had occurred. In the latter the information obtained relative to the cause of death is hearsay and only partially reliable and has not the scientific value of that available in the case of children whose life history had been recorded from birth.

6 males and 6 females had attended the clinic and their life history was known. 11 males and 6 females had not attended the clinic and their previous history was not known, so that out of 29 deaths between the ages of 1 month and 1 year, only 12 had been known at the Health Office. Of the children of the Borough over 90 per cent attend the clinic; so that if the Death Rate among those children who attend the clinic were the same as that of those children who do not attend we should have the life history of about 90 per cent of these infant deaths instead of only 34 per cent. Working out the figures one finds that the Death Rate between one month and one year amongst children who attend the clinics is slightly over 1%, whilst amongst those who do not attend the rate is over 17%. This is an astounding proposition, definitely established and requiring explanation. It is liable to much misinterpretation. Year after year figures of a similar kind are obtained and, again, it must be stated definitely that this evidence must not be used to demonstrate the value of the clinics. On the contrary, it calls attention to a point in which the clinics fail. It has been said that over 90 per cent of the children born in Swindon attend the clinics. If the non-attenders were an average of the aggregate the matter would be of no importance, but they are not average; those that do not attend consist almost entirely of

that section of the population which is right at the bottom of the social scale and for whom attention is most necessary. In most towns a large proportion of the population belongs to a class for whom the various municipal clinics were not intended. In Swindon such a class scarcely exists. The social position of Swindonians is remarkably level; we have very few citizens belonging either to the top or bottom levels of the social scale. The so-called residential class exists in very small number and it is not fertile. With few exceptions the children that do not attend the clinics belong to the lowest grade of the population and amongst them the infantile mortality is enormously high.

Of the 12 children whose life history is completely known 3 were breast fed and 9 were artificially fed. Of the 3 breast fed children 1 died after an operation for intussusception, 1 died from a congenital disease in which the blood retained its embryonic character and 1 died of pneumonia following measles. Of the 9 children who were artificially fed 4 died simply from ill-feeding, 4 died from pneumonia or bronchitis following whooping cough in which ill feeding was at least a contributory cause, and 1 died of pneumonia following measles in which also ill-feeding was a contributory cause. One can say definitely in all these cases that ill-feeding was the chief cause operating to bring about a fatal result because throughout their short lives death had been repeatedly threatened from this cause alone. Of the 17 children whose life history was not known 5 are reported to have been breast fed and 12 to have been artificially fed. Of the breast fed infants 1 died of injury, 1 from congenital syphilis, 1 from pneumonia, 1 from bronchitis and 1 from pyaemia. Of the artificially fed infants 7 apparently died from ill-feeding alone, 4 died from pneumonia following whooping cough and 1 died from congenital heart disease. All the clinic children were legitimate. Of the children who were not known 2 were illegitimate and 15 were legitimate.

A review of these figures brings out, as similar scrutinies always do, that the great cause of death in infancy is failure of breast-feeding. It is certain that in the first year of life failure of breast feeding is vastly more important as a cause of death than all other causes put together. It will be shown as years go on and the life history of children is compiled that it is not only in the first year that the Death Rate among artificially fed children is more than 10 times what it is among breast-fed children, but that the same obtains right on into childhood so far as we have been able to explore. It will be seen that the chief factors of the infantile mortality were ill-feeding and whooping cough. Whooping cough is the explanation why the Infant Death Rate this year in Swindon was higher than last year. The deaths directly due to ill-feeding are not above the average.

DEATHS DURING CHILDHOOD.

The child welfare schemes of Swindon deal with the child continuously from before birth until it reaches the age of 16 years, and in the case of secondary school children, to a still older date. There is therefore no break in the scheme at any age, so that having discussed the death rate amongst infants it is a logical sequence to go on with the deaths which occur later in childhood.

DEATHS IN CHILDREN BETWEEN 1 AND 2 YEARS OF AGE.

14 such deaths were registered. Of these 10 were clinic cases whose life history was known. 4 cases had not attended the clinics and their history was not known. Of the 4 whose history was not known 1 died of tuberculous meningitis, 2 died from pneumonia following whooping cough and 1 died from ill-feeding. Of the 10 children whose history was known 5 had been breast fed. 1 of these died from injury (scalds) 1 from sarcoma of the kidney and 3 from pneumonia or bronchitis, of which 2, and possibly all three, were due to whooping cough. Of the five artificially fed children 1 died from acute nephritis of doubtful causation ; 1 from tuberculous meningitis, 1 from pneumonia following measles and 2 from pneumonia—1 certainly and the other probably, due to whooping cough.

DEATHS BETWEEN THE SECOND AND FIFTH YEAR.

14 such deaths were registered. 7 of these had attended the clinic and their life history was known. 7 had not attended the clinic. Of those who had attended the clinic 5 were breast fed and 2 artificially fed. Of the breast fed children 1 died from septic scarlet fever, 3 from pneumonia following measles and 1 from tuberculous meningitis. Of the artificially fed children 1 died from appendicitis and the other from rickets. Of the children whose history was not known 1 died from scalds, 1 from rheumatic heart disease, 1 from epilepsy, 2 from pneumonia following measles and 2 from pneumonia, probably, but not certainly, due to whooping cough.

DEATHS OF CHILDREN AGED 5-10 YEARS.

5 cases occurred, of which 3 had attended the clinics and their life history was known. Of the three whose life history was known all were artificially fed in infancy. 1 died from cerebral tumour, 1 died from rheumatic fever and 1 from primary pneumonia. Of the children whose life history was not known, 1 died from epilepsy and the other from influenza.

Deaths of Children aged 10-17 years.

12 such children died. The life history of these children is either not known at all or else so imperfectly known that it has little or no value. 4 died from tuberculosis of the lung, 1 from tuberculous meningitis and 1 from tuberculosis of the spine. 1 died from heart disease, 1 from pnuemonia 1 from actinomycosis, 1 from Bright's disease, 1 from epilepsy and 1 was run over.

The Death Rate for this year amongst children is high, higher than it should be, and this increased, and fortunately unusual, mortality was due entirely to whooping cough.

A compilation of the life histories of citizens who die before reaching adolescence is now in course of preparation. So far as we have gone it has become quite obvious that the prevention of death and disease can only be obtained through a knowledge of the actual causes of departures from health and that those causes can only be ascertained by studying the life histories of those who suffer and contrasting them with the life histories of the survivors. In that way it is possible to find out what are the adverse factors, how they operate and how they can be prevented. The majority of children who die *apparently* die from acute processes, but what this really means is that acute processes terminate a history which has been unfavourable for long before the exciting cause of death has appeared. We have seen that whooping cough was the final cause of death in a very large number of children ; but it is only a small proportion of children who develop whooping cough who die from it. We must therefore find out the reason why such a disease should end fatally in some cases and not generally. Up to quite recently this knowledge was presumed, and it was generally held that it depended upon the severity of the infection. This is not proved ; it is probably not true ; and, if it were true, it would merely put back the question one step—why is infection more severe in some children than in others ? A common cause of death among children, indeed at any age, is appendicitis. This is as acute a process as can occur ; it often occurs *apparently* without warning in children who are presumed to be healthy ; it therefore, on the surface, appears to be as sudden and unavoidable as being run over. But when the life histories of children who develop appendicitis are contrasted with the life histories of children who do not so suffer, a very different story can be told.

STILLBIRTHS.

Stillbirths and miscarriages after the seventh month are notifiable. 26 cases were notified, 5 of which occurred in the Maternity Hospital. Of these 2 were not Borough cases. In 12 cases delivery was premature and in fourteen it was full time. 12 were first pregnancies and 14 were subsequent pregnancies. The large number of first pregnancies-ending in stillbirth is to be noted.

CAUSES OF STILLBIRTH.

The causes of stillbirth are to a great extent identical with the causes of death during the first week of life ; it being rather a question of degree whether from a given cause, the infant dies before or during labour or survives for a day or two as an independent being. But there is one important cause of stillbirth which is apart from these, and that is suffocation of the infant during the process of delivery ; for it is probable that though a feeble infant may be partly suffocated during delivery, and though born alive, may fail to live more than a few minutes, a healthy infant will recover completely from a delivery, however prolonged, so long as he is actually alive when the delivery is over.

There is no subject in Child Welfare which is calling for greater attention than that of stillbirths and deaths within the first few days of life. We have made an enormous advance in the prevention of death in infants after the first week, but we have not succeeded in materially reducing the deaths which occur before, during, or immediately after, delivery. The cause of failure in this direction must to a great extent be attributed to lack of evidence. We fail to prevent these deaths because we do not clearly know what they are due to ; so the collection and sifting of evidence bearing upon the subject must be a preliminary to any hope of improving this black spot in Child Welfare.

Of the 26 stillbirths that occurred in Swindon during 1924, 14 are unexplained, *i.e.*, no reason, or no adequate reason, can be given for the death of the infant. In 12 cases evidence is available which is of some value : but it is only in those cases which were delivered in the Maternity Home that a real scientific explanation is available. Of the five stillborns that occurred in the Maternity Home, one was dead and destroyed before admittance ; death was due to difficulty of delivery, owing to a contracted pelvis. It might have been prevented by ante-natal supervision and appropriate treatment. Two were due to impaction of the head in breech presentations. Both were healthy infants killed by asphyxia. Possibly these might have been saved by a more speedy delivery had that been possible. 1 case died from placenta praevia. This was a premature, puny infant, probably not theoretically saveable. The fifth was an induced labour of a premature infant which conceivably might have been saved. One therefore can say that of 5 stillbirths, 4 were theoretically saveable. It must be clearly understood what is meant by this. It does not mean that the greatest available skill had not been exercised in their deliveries, but that increased knowledge may give us a more efficient skill than that which we possess at present. In other words it offers hope for the future.

In 7 cases, not delivered in the Maternity Hospital some evidence of value bearing upon the stillbirths is available. 2 of these could be put down to congenital syphilis. They are theoretically preventable. One was due to toxaemia of pregnancy, one to pneumonia in the mother and one to an obscure disease of the mother. In these cases the death of the infant was probably due to toxaemia. They must be considered as not theoretically preventable in the present stage of our knowledge. The two remaining cases were due to complications of delivery which might have been foreseen and which were theoretically possible to prevent. Of the 26 cases 5 only had received any kind of ante-natal care. All the stillbirths were legitimate.

HOSPITAL ACCOMMODATION.

The hospital accommodation remains as it was, utterly inadequate for the needs of the town. It must not be supposed that the existing hospitals do not give the full benefit of which they are capable, but it is quite beyond their powers to give what is required, so that they are always working under conditions of unsurmountable difficulty. The inhabitants of Swindon are perhaps a little frightened at the cost that would be involved in providing the town with an efficient hospital equipment, but they do not realise the far greater price that they are paying for its absence. Money spent on journeys to better-equipped towns, and the time lost in doing so ; and money that has to be paid to organisations without the town for work which might with ease, and with far greater efficiency be done locally is greater than the cost of maintaining a complete hospital system. The absence of a complete hospital unit in the town renders the full development of the means for relieving and curing the population impossible. From all sides we are working up a scheme to give to the population the full benefits of medical science. This scheme, indeed, must develop slowly and to a certain extent experimentally and is fraught with great difficulties by the conflicting views and interests of all concerned ; but nevertheless it is surely if slowly developing, and when complete will not only reduce materially the incidence and the calamities of disease, but will reduce almost equally the vast cost of our medical and allied services. But locally in Swindon each step towards the unification of the health system is obstructed by the absence of a hospital unit which must, in the essence of things, be the central point of its activity. From those who know, bitter complaints are made constantly of the existing state of affairs, but the blame is seldom apportioned with fairness, and this must be so in the unsatisfactory condition in which we are situated.

CONCLUSION.

One of the greatest health authorities in the country has stated that it is surprising how far the practice of medical science falls short of its theory, and calls attention to the need of bringing practice to the level which our theoretical knowledge tells us is attainable. Theory must, of course, precede practice and at all times actual practice must lag somewhat in the rear of advancing theoretical knowledge. But it must be admitted that in medicine there are many points in which practice has fallen so far behind that it has almost lost sight of the light that it should follow. Only those who attempt to apply the knowledge gained by experimental research realise the great difficulty that there is in translating theory into practice, but they only will ever overcome the difficulty. In the practice of the Public Health many authorities are quite unable to appreciate what progress has been made, the direction of our progression, and of the means by which further progress can be assured. It is often either stated or implied that theoretical research in Public Health is a luxury, which though highly commendable is not a fit subject for expenditure. Nothing could be more false or more shortsighted. Experimental research is essential to health administration. By it alone can we overcome disease and the expense which disease entails. To carry out Public Health solely upon the lines which are dictated by others, or which have their foundation on the limited experience of the past is to produce a system which is as costly as it is inefficient. The same experimental work which enables us to fathom the mysteries of disease generally enables us at the same time to curtail considerably the financial burden which disease entails, and it will be found that the most progressive authorities can generally carry out their work in the cheapest manner. Experiment costs much in time and far more in effort but practically nothing in financial expenditure.

In reviewing the foregoing account of the health condition of Swindon during 1924, one finds much that is satisfactory and much that is not satisfactory, and though it is more pleasant to talk about the former it is more valuable to discuss the latter. Where failure is complete nothing can be learnt except the fact of failure, but where, as generally occurs, results are indefinite or partly favourable and partly the reverse, much can be gained to direct our steps for the future. Few matters prove to be on investigation what they appeared to be on the surface. The progress of Public Health depends upon the discovery of the true causes of disease. Its principle lies in this, that though the causes of any particular disease may be extremely numerous it is necessary for all to act together in order to produce the disease. If one important cause can be discovered which is capable either of prevention or of altering, the development of the disease is impossible, even if all other causes are left untouched. But it is essential that at least one cause—and that a necessary cause—shall be known definitely. Unfortunately this knowledge is often lacking. In few diseases are we certain of any cause which is a real and necessary causal factor. In practically all diseases we know of some factors that play some part in the causation, but generally the part played is a minor one, and very often the whole gamut of causes assigned to any particular disease may be present in conditions of perfect health. But there are fortunately many conditions of which we know some of the real causal factors ; and it is seldom indeed that the discovery of a definite necessary causal factor is not followed quickly by a diminution or total suppression of the disease itself. The fact that in so many diseases we do not know of any of the prime causal factors demonstrates how difficult they are to elucidate, but it also suggests that they must be sought along lines which up to the present have not been considered. The greatest discovery that was ever made in elucidating the causes of disease was that of Pasteur. We now know so much of the influence of parasites as one essential factor in the causation of so many diseases that it is difficult for us to put our minds in the position that ruled before Pasteur's discovery. Seventy years ago it would have appeared ludicrous to ascribe disease to the action of microscopic plants and the genius of Pasteur lies in his proving by logical deduction from his own experiments the incontrovertible proof of a proposition which had never dawned upon his predecessors.

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Medical Officer of Health.

Public Health Department,
61, Eastcott Hill,
Swindon.

16th March, 1925.

APPENDICES.

- I. Statistical and General Tables.
- II. Report upon the Condition of the Maternity and Child Welfare Scheme of the Borough.
- III. Report of Dr. M. Draper upon the Ante-natal Work during 1924.
- IV. Report and Statistics of the Chief Sanitary Inspector.
- V. Report of the Rats Officer.

APPENDIX I.

BOROUGH OF SWINDON.

GENERAL STATISTICS.

The figures given in Tables 1 and 13 are those supplied by the Registrar General. The figures in the other tables and throughout the text are such as have been corrected after full investigation and are therefore more accurate.

TABLE I.

Area (Acres)	4265
Population (1924)	56570
Number of inhabited houses (1924)	13100
Number of families or separate occupiers (1924)	(Figure not available).
Rateable Value	£278,316
Sum represented by a penny rate	£1,050 (approx.)

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

		Total	M	F.	
Births	Legitimate	942	484	458	
	Illegitimate	26	13	13	Birth Rate 17.11
Deaths	....	610	317	293	Death Rate 10.78

Number of women dying in, or in consequence of childbirth	From sepsis	—
	From other causes	1

Deaths of Infants under one year of age per 1,000 births :—
Legitimate 59.44 Illegitimate 192.30 Total 63.01

Number of deaths from Measles (all ages)	7
,, ,, ,, Whooping Cough (all ages)	5
,, ,, ,, Diarrhoea (under 2 years of age)	4

INFECTIOUS DISEASE.

TABLE showing the numbers of Infectious Diseases notified in the Borough during the year 1924.

TABLE 2.

Disease.	Cases notified at various ages. (Years).												Total cases notified	No. of cases admitted to Hospital	Total Deaths
	Under 1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 & upwards			
Diphtheria	—	2	6	5	3	21	19	9	10	4	—	—	79	75	—
Erysipelas	1	—	—	—	—	—	—	—	2	1	7	3	14	9	—
Scarlet Fever	—	1	1	2	—	10	6	1	4	—	1	—	26	23	1
Ophthalmia Neonatorum	15	—	—	—	—	—	—	—	—	—	—	—	15	1	—
Malaria	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—
Pneumonia	16	26	11	10	5	17	4	7	16	14	28	21	175	29	47
Chicken Pox	4	4	10	7	9	51	12	3	—	—	—	—	100	—	—
Encephalitis Lethargica	—	—	—	1	—	2	—	—	—	—	1	—	4	3	—
Puerperal Fever	—	—	—	—	—	—	—	—	1	2	—	—	3	2	—
Poliomyelitis	1	2	—	—	—	—	—	—	—	—	—	—	3	—	—
Tuberculosis—															
(a) Pulmonary M.	—	1	—	—	—	2	—	10	17	2	7	5	44	—	
F.	—	—	—	—	—	1	2	5	13	3	6	1	31	—	
TOTAL													75	—	42
(b) Non-Pulmonary M	—	1	1	2	2	5	6	4	1	1	2	—	25	—	
F	—	1	—	1	—	1	—	1	3	3	1	—	11	—	
TOTAL													36	—	11
TOTALS	37	38	29	28	19	110	49	40	68	30	53	30	531	142	101

26 notifications of Scarlet Fever occurred in houses containing 125 rooms and 143 inhabitants, giving an average of one infection per 4.8 rooms and per 5.5 inhabitants.
79 notifications of Diphtheria occurred in houses containing 365 rooms and 546 inhabitants, giving an average of one infection per 4.6 rooms and per 6.9 inhabitants.
175 notifications of Pneumonia occurred in houses containing 621 rooms, and 766 inhabitants, giving an average of one infection per 3 5 rooms and per 4.3 inhabitants.

TABLE SHOWING MONTHLY INCIDENCE OF INFECTIOUS DISEASES (Corrected for errors of diagnosis) AND THE NUMBER OF DEATHS DURING 1924.

TABLE 3.

Disease.	No. of Cases.												Total	No. of deaths.
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
Diphtheria	1	11	4	2	3	1	1	—	1	8	25	3	60	—
Erysipelas	1	2	1	—	1	—	—	1	1	—	3	4	14	—
Scarlet Fever	4	4	1	—	2	3	—	—	—	1	5	—	20	1
Ophthalmia Neonatorum	2	3	2	2	—	—	1	—	1	2	1	1	15	—
Malaria	—	—	—	—	1	—	—	—	—	—	—	—	1	—
Pneumonia	16	18	58	29	12	2	4	3	5	8	10	10	175	62
Chickenpox	83	17	—	—	—	—	—	—	—	—	—	—	100	—
Encephalitis Lethargica	—	—	—	—	—	1	—	1	—	—	—	—	2	—
Puerperal Fever	—	1	—	—	—	—	—	—	—	—	1	—	2	—
Poliomyelitis	2	—	—	—	—	—	—	—	1	—	—	—	3	—
TOTALS	109	56	66	33	19	7	6	5	9	19	45	18	392	63

Comparative statement showing the number of notifications ceived of the various forms of Tuberculosis and the Death Rates resulting from each form of the disease for the years 1914-1924.

TABLE 4.

	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914
of cases notified (all forms)	111	117	103	98	97	73	116	129	132	140	160
spiratory Tuberculosis	75	75	68	63	72	51	86	102	95	86	101
ths from Respiratory Tuberculosis	42	48	59	42	55	44	66	60	48	51	53
ths from Tuber. Meningitis	4	12	6	11	8	8	11	8	10	10	3
ths from other forms of the disease	7	7	6	12	6	8	11	10	10	8	1
al deaths from Tuberculosis	53	67	71	65	69	60	88	78	68	69	57
eral Death Rate for all forms of Tuberculosis	0.93	1.19	1.27	1.17	1.28	1.16	1.74	1.5	1.3	1.32	1.07
th Rate for Respiratory Tuberculosis	0.74	0.85	1.05	0.75	1.02	0.85	1.30	1.15	0.95	0.98	1.0

BACTERIOLOGICAL INVESTIGATIONS.

TABLE 5.

	Public Health Dept.	School Medical Dept.	Total
Examinations carried out by Bristol University			
Differentiation of organism and preparation of vaccine	....	2	2
Examinations carried out at Gorse Hill Hospital :—			
Throat swabs examined	613	....	613
Examinations carried out at 61, Eastcott Hill :—			
Throat ; swabs examined direct	....	2	2
Eyes ; swabs examined direct	48	11	59
Pus and discharges :—			
For Tubercle bacilli	3	5	8
For other organisms	25	18	43
Hair. Examinations for Ringworm fungus	18	507	525
Other conditions	1	5	6
Blood, Histological examinations	50	66	116
Cerebro-spinal fluid	1	....	1
Sputum. For Tubercle bacilli	1	2	3
For other organisms	1	2	3
Urine-Chemical examinations	19	23	42
Bacteriological examinations	5	3	8
For diseased meat	10	—	10
Miscellaneous	....	2	2
TOTALS	795	648	1443

No. of samples of water submitted for chemical and bacteriological analysis 17

No. of samples of sewage effluent submitted for chemical examination 7

BOROUGH OF SWINDON.

Annual Statistics relating to the Maternity Hospital.

TABLE 6.

	Borough	County	Total
(1) Total number of cases admitted	127	28	155
No. of patients in hospital on 1/1/24.	7	—	7
No. of patients in hospital on 1/1/25	11	1	12
No. delivered	117	23	140
(2) Average duration of stay	19 days	15 days	—
(3) No. of cases delivered by			
(a) Midwives	91	17	108
(b) Doctors	26	6	32
No. of cases in which no delivery took place	11	5	16
(4) No. of cases in which medical assistance was sought by the midwife with reasons for requiring assistance.			
(a) Ante-natal	5	1	6
(b) during labour	13	1	14
(c) after labour	8	1	9
(d) for infant	7	1	8
(5) No. of cases notified as puerperal sepsis with result of treatment in each case.	1 Notified and withdrawn. 2 Notified and removed to Fever Hospital		
(6) No. of cases in which temperature rose above 100.4 for 24 hours with rise of pulse rate.	9		

Annual Statistics relating to the Maternity Hospital.

TABLE 6—*Continued.*

(7) No. of cases notified as Ophthalmia Neonatorum with result of treatment in each case.	2. 1 Complete recovery. 1. Discharged before complete cure, but the eye was eventually cured completely.
(8) No. of cases notified as ' Inflamation of the eyes,' however slight.	4
(9) No. of infants not entirely breast fed while in the Institution, with reasons why they were not breasted	2 owing to mothers' condition (completely artificially fed). 1 owing to mother's condition, (partially artificially fed) 1 owing to insufficient milk, (temporarily artificially fed).
(10) No. of maternal deaths with causes	Nil.
(11) No. of foetal deaths (Stillborn or within 10 days of birth) and their causes—and the results of the post-mortem examination if obtainable	5 Stillbirths. 2 Impacted breech. 1 Induced Labour. 1 Placenta praevia. 1 Obstructed Labour (infant destroyed before admission). *Deaths under 10 days.* 4 1 After operation for abdominal malformation (Removed to general hospital, operated upon and died, six days old). Full term. 1 Intercranial haemorrhage, Forceps delivery. Full term. Lived one hour. 1 Premature, 34 weeks. Mother toxaemia. Weighed 2 lbs. at birth. Lived three days. 1 Premature, 32 weeks. Antepartum haemorrhage. Lived 6 days.

TABLE SHOWING THE NUMBER OF VISITS PAID BY THE HEALTH VISITORS TO MOTHERS AND CHILDREN AND TO CASES OF TUBERCULOSIS.

Table 7.

No. of visits paid to mothers and children	923
No. of revisits.	3189
No. of visits paid to expectant mothers	262
No. of visits paid to cases of Deaths and Still-births	78
No. of visits to cases of Tuberculosis	123
No. of visits paid to children aged 1—5 years	3033

RECORD OF WORK DONE AT THE INFANT WELFARE CENTRES DURING THE YEARS 1918-1924 INCLUSIVE.

Table 8.

	1918	1919	1920	1921	1922	1923	1924
No. of infants on the books of the Centre at :—							
Eastcott Hill	1046	1189	1517	1637	1050	1125	1127
Gorse Hill	—	—	—	250	305	272	310
Rodbourne	—	—	—	202	206	208	209
Total number of attendances							
Eastcott Hill	2297	2798	4444	4971	5073	5698	5521
Gorse Hill	—	—	—	1216	1520	1319	1474
Rodbourne	—	—	—	951	1461	1306	1211
Total number of cases which received medical advice and treatment	184	341	656	761	600	580	625
Total Consultations	—	—	—	—	1526	1461	1672

SUMMARY OF CONDITIONS SEEN AND TREATED AT THE INFANT WELFARE CLINICS DURING THE YEAR 1924.

TABLE 9.

	Babies	Toddlers	Total
Diseases and defects due to Ante-Natal Causes.			
Phimosis	89	4	93
Squint	9	4	13
Congenital defects of nervous and mental system	7	5	12
Blood Disease	7	....	7
Naevus	8	1	9
Other Congenital Deformities, &c.	13	1	14
Hernia	16	3	19
Congenital Syphilis	9	3	12
Cretinism	....	1	1
Post Natal Infections—			
Ophthalmia	28	3	31
Whooping Cough	9	....	9
Diphtheria	1	....	1
Scarlet Fever	....	1	1
Thrush	9	....	9
Infection of Navel	4	....	4
Various	....	1	1
Ringworm	10	10	20
Infantile Paralysis	4	2	6
Ear Disease	13	5	18
Pneumonia	14	3	17
Measles	2	....	2
Encephalitis Lethargica	2	2	4
Tuberculosis	3	....	3
Anaphalaxis	3	2	5
Gonorrhoea	1	....	1
Tonsils and Adenoids	1	15	16
Cerebro-spinal Meningitis	1	....	1
Polio-Encephalitis	1	....	1
Errors of Management and Dieting, etc.			
Illfeeding	139	11	150
Skin eruption	34	8	42
Rickets	9	3	12
Scurvy	2	....	2
Starvation	3	....	3
Injuries	11	6	17
Various	36	13	49
Burns	....	1	1
Neglect	1	....	1
Teeth	3	4	7
Defectives	5	6	11
TOTALS	507	118	625

Table showing the number of cases of Ophthalmia Neonatorum notified, the number treated, the results of treatment, and the number of deaths occurring.

TABLE 10.

No. of Cases notified	15.	No. of Cases	Vision Unimpaired	Vision impaired	Total blindness	Deaths
Treated at Clinic		10	10*	....	....	....
Treated at Gorse Hill Clinic		3	3	....	....	....
Treated at Maternity Hospital		2	2	....	....	....
Treated privately		....	....	....	....	....
TOTALS		15	15	....	....	....

* 1 case developed instertitial keratitis and is at present still under treatment; the vision will probably not be permanently impaired.

MILK (MOTHERS AND CHILDREN) ORDER, 1919.

TABLE 11.

Number of applications for Milk received during the year	68
Number of applications granted	61
Number of cases on live register at the end of the year	26
Average number on live register throughout the year	20
Amount of Milk distributed (approx.)	900 galls.
Cost of milk distributed (approx.)	£90

REVIEW OF THE COMPARATIVE VITAL AND MORTALITY STATISTICS FOR THE BOROUGH OF SWINDON, TOGETHER WITH THOSE FOR ENGLAND AND WALES FOR THE YEARS 1901 TO 1924 INCLUSIVE.

TABLE 12.

	BIRTH RATE		DEATH RATE		INFANT MORTALITY RATE.		
Year	Swindon	England and Wales	Swindon	England and Wales	Swindon	England and Wales	Illegitimate Death Rate.
1901	30·6	28·5	11·8	16·9	102·9	151	—
1902	28·3	28·5	12·7	16·3	104·7	133	—
1903	29·5	28·5	11·27	15·5	106·9	132	—
1904	30·0	28·0	12·49	16·3	111·2	145	—
1905	28·4	27·3	11·2	15·3	95·4	128	—
1906	29·4	27·2	9·9	15·5	86·2	132	—
1907	28·8	26·5	12·3	15·1	91·8	118	—
1908	28·9	26·7	11·8	14·8	101·5	120	—
1909	26·5	25·8	10·8	14·6	78·2	109	—
1910	23·4	25·1	9·7	13·5	86·8	105	—
1911	21·6	24·3	10·9	14·6	103·1	130	—
1912	23·4	23·9	10·3	13·3	76·3	95	—
1913	23·39	24·1	12·08	13·8	86·4	108	—
1914	22·5	23·8	11·5	14·0	73·7	105	—
1915	21·16	21·9	12·83	15·7	67·7	110	—
1916	18·9	20·9	11·3	14·4	72·4	91	—
1917	15·5	17·8	12·25	14·4	88·6	96	—
1918	16·53	17·7	15·13	17·6	81·3	97	129·63
1919	16·86	18·5	11·97	13·8	83·9	89	79·52
1920	23·25	25·4	11·64	12·4	69·0	80	122·44
1921	20·27	22·4	9·58	12·1	67·5	83	102·56
1922	18·98	20·6	12·17	12·9	60·5	77	121·95
1923	17·77	19·7	9·27	11·6	53·2	69	83·33
1924	17·11	18·8	10·78	12·2	63·01	75	192·30

BOROUGH OF SWINDON.

CAUSES OF DEATH, 1924.

TABLE 13.

(Registrar General's Official Returns).

CAUSES.	MALES	FEMALES	TOTAL
Measles	2	5	7
Scarlet Fever	1	—	1
Whooping Cough	3	2	5
Diphtheria	—	—	—
Influenza	15	13	28
Tuberculosis of Respiratory System	26	16	42
Other Tuberculous Diseases	6	5	11
Cancer, malignant disease	41	38	79
Rheumatic Fever	—	2	2
Diabetes	3	3	6
Cerebral Haemorrhage &c.	16	14	30
Heart Disease	51	57	108
Arterio-sclerosis	6	12	18
Bronchitis	22	28	50
Pneumonia (all forms)	30	17	47
Other respiratory diseases	6	5	11
Ulcer of Stomach or duodenum	4	1	5
Diarrhoea &c. (under 2 years)	2	2	4
Appendicitis and typhlitis	3	4	7
Cirrhosis of Liver	—	—	—
Acute and Chronic nephritis	7	8	15
Puerperal Sepsis	—	—	—
Other accidents and diseases of .... pregnancy and parturition	—	1	1
Congenital Debility and Malformation, premature birth	19	14	33
Suicide	2	—	2
Other Deaths from Violence	9	3	12
Other defined diseases	43	43	86
	317	293	610

BOROUGH OF SWINDON.

INFANT MORTALITY. TABLE 14.

1924. *Nett Deaths from stated causes at various ages under One Year of Age.*

Compiled from the Official Registrations.

CAUSES OF DEATH.	Under 1 week	1–2 weeks	2–3 weeks	3–4 weeks	Total under 4 weeks	4 weeks and under 3 months	3 months and under 6 months	6 months and under 9 months	9 months and under 12 m'ths	Total deaths under 1 year,
All Causes :—										
Certified	22	3	3	3	31	10	8	4	8	61
Uncertified	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	1	....	1
Measles	....	....	....	....	....	....	....	....	1	1
Whooping-Cough	....	....	....	....	....	....	3	....	1	4
Meningitis (not Tuberculous)	1	....	....	....	1	....	....	....	....	1
Bronchitis	....	....	....	....	....	....	1	1	3	5
Pneumonia (all forms)	1	1	1	....	3	2	....	....	2	7
Enteritis	....	....	....	....	....	2	....	1	....	3
Suffocation, overlying	....	....	....	....	....	....	1	....	....	1
Premature Birth	16	1	2	2	21	....	....	....	....	21
Atrophy, Debility & Marasmus	....	....	....	....	....	2	2	....	....	4
Banti's Disease	....	....	....	....	....	....	....	1	....	1
Epilepsy	....	....	....	....	....	1	....	....	1	2
Congenital Heart Disease	3	....	....	....	3	2	....	....	....	5
Inattention at Birth	1	....	....	....	1	....	....	....	....	1
Intussusception	....	....	....	....	....	....	1	....	....	1
Spina bifida	....	1	....	1	2	....	....	....	....	2
Multiple Streptococci	....	....	....	....	....	1	....	....	....	1
TOTALS	22	3	3	3	31	10	8	4	8	61

TABLE SHOWING THE CAUSES OF DEATHS OF CHILDREN UNDER 17 YEARS OF AGE IN THE BOROUGH OF SWINDON DURING THE YEAR 1924.

TABLE 15.

CAUSE.	0-1	1-2	2-5	5-10	10-17	Total
Errors of development	8	....	....	....	....	8
Prematurity	2	....	....	....	....	2
Lack of vitality, not satisfactorily explained	17	....	....	....	....	17
Congenital syphilis	4	....	....	....	....	4
Illfeeding	12	1	....	....	....	13
Rickets	....	....	1	....	....	1
Acute Parasitic Diseases—						
Influenza	....	....	....	1	....	1
Whooping Cough	8	7	2	....	....	17
Measles	2	1	5	....	....	8
Pneumonia	1	...	....	1	1	3
Bronchitis	1	....	....	....	....	1
Actinomycosis	....	....	....	....	1	1
Pyaemia	1	....	....	....	....	1
Rheumatic Fever	....	....	1	1	1	3
Scarlet Fever	....	....	1	....	....	1
Appendicitis	....	....	1	....	....	1
Tuberculosis—Lungs	....	....	....	....	4	4
Meninges	....	2	1	....	1	4
Spine	....	....	....	....	1	1
Nephritis	....	1	....	....	1	2
Sarcoma	....	1	....	....	....	1
Intussusception	1	....	....	....	....	1
Epilepsy	....	....	*1	*1	1	3
Cerebral Tumour	....	....	....	1	....	1
Injury	1	1	1	....	1	4
TOTALS.	58	14	14	5	12	103

NOTE.—The death of every child under the age of 17 years is made the subject of enquiry, in which all matters connected with the medical history of the child are considered, and from the available evidence the conclusion is drawn as to what was the main factor which destroyed life. In the above table the deaths are given in accordance with these findings, so that they do not necessarily correspond with the official records.

* These deaths were probably due to acute infection of the nervous system.

LIST OF HOSPITALS PROVIDED OR SUBSIDISED BY THE LOCAL AUTHORITY OR BY THE COUNTY COUNCIL.

TABLE 16.

TUBERCULOSIS	Two beds at Winsley Sanatorium, near Bath, provided by the local authority.
MATERNITY.	A Maternity Hospital of 13 beds provided by the local authority.
CHILDREN.	Nil.
FEVER.	A fever hospital provided by the Swindon and District Hospital Board. (About 90 beds.)
SMALL POX.	A Smallpox Hospital provided by the Swindon and District Hospital Board. (Permanent brick building with 12 beds).
VENEREAL DISEASES.	A hospital with 6 beds provided by the Wilts County Council.

LIST OF CLINICAL TREATMENT CENTRES IN THE BOROUGH OF SWINDON.

TABLE 17

Name of Clinic.	Where held	Days and hours of attendance.	By Whom Provided.
Maternity and Child Welfare	61, Eastcott Hill	Mondays, Wednesdays & Fridays, 2.30 p.m. to 4.30 p.m.	Swindon Corporation
Maternity and Child Welfare	Girls' Club, St. Paul's Street	Tuesdays, 2.30 p.m.—4 p.m.	,, ,,
Maternity and Child Welfare	Primitive Methodist School, Romsey St.	Thursdays, 2.30 p.m.—4 p.m.	,, ,,
Ante-Natal Clinic	Maternity Home, Milton Road	Tuesdays, 2 p.m.	,, ,,
Minor Ailments	61, Eastcott Hill	Every morning 9 a.m.—11 a.m.	,, ,,
Dental Clinic	Faringdon Street	Daily 9.30—12.30 a.m. & 2—5 p.m. (Saturdays 10—12.30 p.m.)	,, ,,
Eye Clinic	Faringdon Street	Tuesdays 2—4 p.m. and Alternate Tuesdays, 9—11 a m.	,, ,,
Ringworm Clinic	61, Eastcott Hill	Tuesdays, 2—5 p.m.	,, ,,
Throat, Nose & Ear Clinic	,, ,,	Mondays, 2—5 p.m.	,, ,,
Enlarged Thyroid Glands	,, ,,	Thursdays, 2—5 p.m.	,, ,,
X Ray Clinic	,, ,,	Thursdays, 2—5 p.m.	,, ,,
Electrical Treatment (General)	,, ,,	Mondays, 2—4 p.m.	,, ,,
Electrical Ionization Clinic	,, ,,	Fridays, 2—4.30 p.m.	,, ,,
Observation Clinic	,, ,,	Saturdays, 9.30 a.m.—12 noon	,, ,,
Tuberculosis Clinic	Tuberculosis Dispensary, Milton Road	Thursdays, 11 a.m.—1 p.m.	Wilts County Council.
Venereal Diseases Clinic	Isolation Hospital, Gorse Hill	Men. Wednesdays, 7—8.30 p.m. Saturdays, 1.30—3 p.m. Women and Children— Tuesdays, 5—6.30 p.m. Fridays, 2—3.30 p.m.	Wilts County Council
Orthopaedic Clinic	Dispensary, 15 Milton Road	Tuesdays, 11 a.m.—5 p.m.	Voluntary Association

AMBULANCE FACILITIES.

TABLE 18.

(a)	For Infectious Diseases (including Small-pox)	A Motor Ambulance is supplied by the Swindon and District Hospital Board.
(b)	For non-infectious and accident cases.	A Motor Ambulance is provided by the Swindon Town Council.

TABLE 19.

LIST OF LOCAL ACTS, SPECIAL LOCAL ORDERS AND GENERAL ADOPTIVE ACTS IN FORCE IN THE DISTRICT.

LOCAL ACTS AND ORDERS.

The Swindon Corporation Act, 1904.
Swindon Water Act, 1894.
Swindon (Water) Orders of 1902 and 1919.
Swindon Corporation Tramway Order, 1901.
Swindon New Town Electric Lighting Order, 1895.
Swindon Corporation (Wilts and Berks Canal Abandonment) Act, 1914.

ADOPTIVE ACTS IN FORCE.	DATE OF ADOPTION.
Infectious Diseases (Prevention) Act 1890	11th March, 1902
Notification of Births Act, 1907	27th Oct., 1914
The Museums & Gymnasiums Act, 1891	6th June, 1905
The Public Health Acts Amendment Act, 1890	11th Nov., 1890

APPENDIX II.

REPORT OF THE MEDICAL OFFICER OF HEALTH UPON THE CONDITION OF THE MATERNITY AND CHILD WELFARE SCHEME OF THE BOROUGH, WITH SUGGESTIONS FOR ITS FUTURE DEVELOPMENT.

In pursuance of the request of the Maternity and Child Welfare Committee of the Corporation, I have pleasure in submitting a Report upon the whole question of Maternity and Child Welfare; a short review of its history; of the present condition of its activities; the experiences gained through experiment and observation, and indications as to its future development.

Since this Report will not deal with immediate recommendations for development, the widest latitude will be exercised in discussing the question of its future. It will be advisable to consider the state of the service, not only in its relationship with the town as at present constituted, but to take cognisance of the future growth of the town and the possibility of its status being exalted. Considerable difficulty is experienced in the administration of Maternity and Child Welfare work by the fact that the town has outgrown its Borough boundaries and that a large number of persons who must be considered as Swindonians, who are natives of the town, and whose work and connections are inseparably connected with the Borough, at present live without the boundary and so cannot receive the full benefit from our Maternity and Child Welfare scheme, which they assume, and with very good reason assume, they are entitled to. Strictly speaking, these people who reside outside the boundaries of the Borough have no right of any kind to any benefit from the activities of the Corporation, but for most obvious reasons such rigid exclusion has never been enforced, and such benefits and conveniences have been granted to them as did not raise any legal difficulties.

With the exception of the provision for the delivery of poor women in adverse circumstances, the whole subject of Infant Welfare is a child of the present century. The need for machinery to guard the health of the infant was rendered obvious from the results of medical inspection of school children. It was found that though much could be effected by attending to the health of the school child, many of the problems with which we are confronted resulted from diseases and abuses long anterior to school life, and that if we were to obtain for the rising generations the full benefits of child care it was necessary to start, not at the beginning of school life, but anterior to conception. As with the medical inspection of school children, so with Infant Welfare, though the general needs of the situation were immediately obvious, we had no trustworthy guide to inform us what were the particular needs that had to be met, or the precise means by which improvements could be effected. As with school medicine, the moment the Child Welfare scheme was inaugurated we had ex cathedra statements from persons who professed that they knew what they were talking about, giving us details as to what conditions we were going to find, with dogmatic statements as to methods by which adverse conditions could be exterminated. As with school medicine we found that these forecasts were erroneous ; that the adverse conditions calling for remedy were different in kind and in degree from that which had been foretold and that the machinery for dealing with the conditions that we found had to be created. We have consequently had to pass through many years of experimental work, and as the result of past experiments we have been able to draw up a system, very far indeed removed from perfection, from being in a final condition, but which has produced marked improvement in the general situation and given every promise of steadily increasing utility.

The real difficulties of Child Welfare were precisely the same as those of school medicine. Prior to the introduction of these activities into civilised countries the medical profession had accumulated a vast store of knowledge of the diseases of children, but it had practically no knowledge of the normal child or of the wide range of normal physiological variations. It knew much of advanced disease conditions ; it knew little or nothing of the early stages of disease. It knew a certain amount of the immediate causes of disease ; it knew very little of those remote causes which had been operating for months or years before the exciting cause came into action, and which we now know are the main reason why the exciting causes, when they do become operative, possess the power to initiate disease.

As in school medicine so in Infant Welfare, it was first imagined that its main function was the detection of disease which had been overlooked or neglected ; but it was soon realised that its chief function, and as time goes on, practically its only function, is the detection and elimination of causes which, if allowed to continue, would eventually lead to disease. Originally contemplated as being curative in its activities, it has developed into being almost purely preventive. It is obvious that the detection of disease when it is fully manifest and has produced gross structural changes is a very different matter from the detection of those early departures from the healthy condition, which so far have produced no structural change and scarcely, if at all, interfered with the health and well-being of the infant. It might be imagined that an infant clinic was merely a municipal form of the outpatient department of a children's hospital, and that the functions of the clinic were to deal generally with such diseased conditions as are met with in children's hospitals. But in truth its functions are widely different. Very few of the children who are brought to a child welfare clinic would be taken to the outpatient department of a hospital in their present condition. Very rarely indeed is a child seen at an infant clinic suffering from any of the conditions which are usually treated in children's hospitals. Indeed, if an infant clinic is properly run and properly utilised those conditions for which children are sent to the special hospitals would never be seen except as curiosities, either in the infant clinic or elsewhere, for if the clinic performs its main function in a satisfactory manner the diseases of infancy and childhood are attacked at their very commencement, and so the diseases in their full developed condition would never be seen at all. It is necessary to enlarge upon this point for two reasons ; firstly in order that the authorities who are responsible for child welfare work should clearly understand its true function, and secondly, to guard against the danger which is ever present in human endeavours to consider that a scheme has become obsolete and no longer necessary because it has met with success.

In reviewing the work of the Welfare Centres in Swindon during 1923 it will be noticed that ninety per cent of the children of the Borough have attended these clinics ; that an enormous number of attendances were registered ; but that the numbers of diseased conditions met with and treated were comparatively small. It might therefore be argued that an enormous amount of work was being done to deal with evils which are but few and slight, until it is remembered that if the evils are few and slight, they are so because of the amount of work that has to be done in the clinics to suppress them. We have every reason to know that should the clinics be abandoned a return to the state of affairs which ruled in the last century would occur in the course of a year ; with the same troubles of a high Infantile Mortality, of a high rate of death during all the ages of childhood, and the long list of physical defects and chronic diseases in the child population.

The growth of Child Welfare work in the Borough has been steady and fairly rapid. Originating in 1916, it has had seven years of continued progression, fortunately almost unhampered by the checks which the financial conditions of the last few years administered to schemes in other parts of the country. Though its progression has been continued and new spheres of activity have been and are still being added to it almost monthly, it has been watched with care to eliminate any unnecessary extravagance and to make sure that each point of development was a point of true progress. No hesitation has been shown in introducing methods which seemed likely to promote the work, but also no hesitation has been shown in scrapping all proceedures which have not realised their expectation, or which have proved unnecessary, unworkable or unworthy of their expense. In the future the same proceedure must be adopted if the work is to progress without check ; for nothing ruins the credit of a scheme more than the persistence in methods which, though they appear to offer advantages, and which are quite rightly introduced as experiments, fail from some cause to realise their expectations ; whereas, on the other hand, the credit of a scheme, of its authors and of those who carry it out is in no way adversely affected by its abandonment after a fair trial.

The whole work of Child Welfare is of vast importance ; it offers the hope of a foundation of social improvement of the community of such incalculable benefit that it is the obvious duty of all civilised communities to explore every field by which its objects might be attained. The hope that it offers is this ; the extermination of death and disease in early life and the guarantee of continued good health during middle age, and the earlier period of senility. There can obviously be no promise or even any hope that the problem of sickness will cease to be a great social problem, but there is the hope, founded not upon guesswork, but upon definite scientific evidence, that the problem can be reduced to one which is quite manageable. In order to reach this end experiment is necessary. Some of the conditions that confront us are not known. Many of those that are known are not at present in practice capable of solution. We have therefore to proceed with caution and to experiment all the time and in every direction. In the past, experimental hygiene, particularly where such experimental work meant calls upon the public purse, was so hampered by local and political difficulties that it broke the heart of all but the most determined and enthusiastic workers. But the condition is now completely changed. We are no longer tied absolutely to obsolete laws. It is no longer considered essential, or even advisable, to carry out measures which, though strictly speaking required by law, have become utterly out of date, and proved to be inconsonant with the growth of knowledge. The Government, acting through the Ministry of Health, who maintains the keenest watch over all local endeavours and expenditure, now welcomes rather than prescribes experimental work where it is satisfied that it will be carried out without abuse or extravagance.

In the following suggestions to meet the future needs of Swindon due allowance is made, so far as can be made, for development upon lines in which at present our knowledge is too scanty or questionable to formulate a working scheme, and due provision is also made to carry out experimental processes which are either to be made permanent or abandoned, as the results may indicate.

INTRA UTERINE LIFE AND THE PREGNANT WOMAN.

Though the conditions of life of the mother anterior to conception have doubtful influence upon her offspring, it is far otherwise as regards her condition during the actual period of carrying. The growing ovum inside her is dependent for everything that it requires upon the maternal organism and it is essential that the maternal organism should be in a condition to supply it. The growing child will indeed extract from the mother everything that it requires if it exists at all in the maternal tissues, and it does do so to the extent of starving the mother if she is not supplied with the substances which are taken from her. Nature will always sacrifice the health and life of the mother in the interests of the child. We find from this that where the mother's condition is unfavourable the injury done to the mother is far greater than that done to the child. In order to preserve the health and life both of the mother and of the child it is of the first importance to attend to the pregnant woman.

At the present moment in Swindon we have the following machinery for dealing with pregnancy. We have a system of visiting women who are pregnant ; we have an Ante Natal Clinic where pregnant women may seek advice and treatment ; we have beds in the Maternity Hospital available for the treatment of the graver diseases of pregnancy, and we have the power to grant small quantities of milk to pregnant women who are in poor circumstances. All these provisions require developing and augmenting. The Ante-natal Clinic has been in existence for some years, but it was not until 1922 that it was put upon a satisfactory basis. The attendances at this clinic have since that date increased to a very great extent and a large amount of excellent work is being done. It is found, however, that many of the complications of pregnancy require hospital accommodation, either for a few days for examination and special investigation, or else for longer periods for the treatment of more serious conditions. It is also found that a certain proportion of women really require hospital treatment for the last three or four months of their pregnancy. The accommodation that we can give in the present Maternity Home in such cases is extremely limited and precarious. There are three objections to treating the diseases of pregnancy in the lying-in ward, first, the physical objection of introducing diseases into the ward ; secondly the administrative objections that the midwives who are competent to treat delivery are not competent to treat the disorders of pregnancy ; and thirdly, the psychological objection to women who are about to become mothers, or are in the hopes of being about to become mothers, being associated with women in which the process of reproduction has terminated in success. This is not a sentimental, but a real solid disadvantage.

What is needed is a special ward attached to the Maternity Hospital, designed for dealing with the disorders of the pregnant condition; a ward of 12 beds, separate from, but contiguous to the Maternity Hospital, would be a most satisfactory provision. Some of the patients would require to be treated for acute diseases, but rather more than half of them would not require such treatment, but rather such treatment as is given to sanatorium patients.

The provision of milk for pregnant mothers is valuable, but it is not utilised to the extent that it should be. It also wants augmenting. Many of the mothers amongst our poorer citizens are in need of fuller extra nourishment, and a provision whereby either meals or the materials for obtaining meals can be given to them might well be considered. I have experience of a scheme on a voluntary basis which has worked for some years. By this scheme orders were issued to pregnant women by which they could obtain from certain specified tradesmen, meat, fruit, vegetables, grocery or milk. The advantages of this scheme were that the Medical Officer who issued these orders was able to specify what articles of diet were to be supplied, and he was enabled to see if they were supplied in a satisfactory manner. The real difficulty was the guarantee that the mother herself got the whole of the supplies, and did not share them with the rest of the family. This was the real difficulty. It is obvious that a scheme of this kind may be open to great abuse by people obtaining provisions when they were quite able to pay for them themselves. In the voluntary scheme of which I had experience, this trouble did not arise, but where such a scheme is put into force by a Public Body, it is very liable to develop, and requires very careful watching. There is a need for such a scheme in Swindon, but by no means on an extensive scale.

Another need for prospective mothers is proper education in motherhood. This education can be given at home, at school or during pregnancy. Generally, with the poorer classes, particularly where there are big families, or where the mother works away from home, instructions in motherhood of good quality are unobtainable. It certainly can be given in school, and to a certain extent is so given, but it requires to be given in a much more enlightened and practical manner than it is given at present.

DELIVERY AND THE LYING-IN PERIOD.

In the majority of instances birth is a natural process, no more liable to failure than any other primitive function, and should be treated as such. The ideal place for birth to take place is in the home, but as a very large number of our citizens have nothing that can be called home, it is necessary to make provision for the deliveries of women, even where the whole process is normal. There are, moreover, a certain proportion of deliveries in which the process is abnormal, in which indeed birth is more in the nature of a surgical operation than of a natural process. For the treatment of these cases in complete conformity with modern knowledge so that the risk is reduced to a minimum hospital treatment is essential, and this is the main function of a Maternity Hospital. So far, in Swindon we have a temporary Maternity Hospital available for normal and abnormal deliveries. In any future hospital it would be advisable that the normal and abnormal be treated in different wards. At the present day the delivery of women is looked upon more as the work of a midwife than of a doctor. This is quite in accordance with modern science, on condition that the midwives are thoroughly well trained. The midwives in practice at present, taken as a body, are very far from being as they should be ; but we are in a transition stage ; it is quite certain that we are on right lines, and the next generation of midwives will be thoroughly competent and reliable.

THE PUERPERIUM.

This is the period which elapses between the process of the birth and the time when the mother is fit to return to her ordinary occupation. It will be well to consider this period as lasting for three months. Generally in normal delivery in a normal woman, return to her ordinary occupation might occur within a few days, but it is well to allow a consideratble period because in such a large proportion of women the whole process is not entirely natural, and there are certain difficulties in connection with the feeding of the infant which should be got out of the way before the woman returns to her household duties. The lying-in period is a time which carries special risks which are by no means unimportant. There is first the risk of infection. In Swindon at the present moment the machinery for dealing with puerperal infection is completely in accord with modern research, and will develop in conformity with any increases of knowledge that we may glean, so that no further provision for this should be required during the next fifty years.

There are other matters, however, for dealing with which we are badly equipped. Certain injuries to the maternal parts may occur in the delivery. Some of these require immediate, some delayed, treatment. We have no thoroughly organised means of dealing with these cases. They are important because failure to deal with them efficiently causes one woman in three in the population to become a partial invalid during the latter half of the child-bearing period. I would suggest that in a new Maternity Home provision be made for these cases.

There is a complication of the lying-in period far more common than is generally suspected, because it is usually kept dark, but which causes a large amount of social distress, and for dealing with which there is no adequate machinery. That condition is temporary insanity. At the present moment cases of this disorder are either kept at home and hushed up, a proceeding which not infrequently ends in the wreck of the home, or else they are certified and removed for treatment in an asylum, a proceeding which adds a lifelong stigma, and is generally unnecessary. The majority of these cases could be dealt with in a completely satisfactory manner in a Maternity Hospital. Most of them are quite temporary, followed by complete recovery without likelihood of recurrence. If this condition is treated as an acute disease, which it is, and considered as a delirium of fever is considered, not as a mental ailment, but as a temporary secondary interference with the brain, it would be a material gain to the social life of the community.

THE NEW-BORN INFANT AND NURSLING.

The first nine months of the life of man, during which he is entirely dependent upon the maternal organism for nourishment can be divided into three parts. The first is the period from birth to the end of the seventieth hour ; the second from the seventieth hour to the end of the fourth week, and the third, from the fourth week to the eruption of the double teeth. During the whole of this period the nourishment of the child should be derived solely from the breast of the mother. If it is not derived solely from the breast of the mother the whole of the after life of the infant suffers in consequence. Though most of you who read this Report will be aware that the artificial feeding of infants causes innumerable deaths and grave disease in infancy, you will probably not be aware of the equally important, but far less known fact that failure of breast feeding is a most important cause of the diseases of late childhood and of middle life. The promotion of breast feeding is therefore the most important point in the whole of preventive medicine, and I will go so far as to say that if we could guarantee that 100 per cent of the population were breast-fed we could abandon half of our campaign against disease.

It will not be necessary to go into detail as regards the treatment of the nursling as we are concerned, not with the actual management, but with the provision and extension of the machinery for dispensing it. In Swindon at present we have a system of Child Welfare clinics which are highly satisfactory. It will be necessary before long, however, to re-organise the Clinics at Gorse Hill and Rodbourne, and if the Borough is extended, to increase the number of clinics. It is important to remember that a nursing mother is not a highly locomotive person, and in order that the clinics may be satisfactory it is necessary that they should be taken as near to the mothers as possible. It is admittedly much easier to manage a big central clinic than to manage several small ones, but the practical results favour small local clinics with one central clinic where more advanced work can be done.

Another provision needed in Swindon which we have not at all is a supply of mothers' helps, to help those women who are really not able to carry out all their domestic duties. This is a very difficult matter from the side of administration. For in the first place one can scarcely conceive a provision more liable to gross abuse. It might well develop into the Corporation being called upon to supply domestic servants to everybody that asked for them. Yet it is a provision, which under certain circumstances, is almost imperatively called for. Looking over the experience of the last four years, I should say that the needs of Swindon as regards domestic help could be met by one, or at the most, two efficient helps. There would be some difficulty in obtaining the right persons as Home Helps. The most satisfactory would be young widows who have had children, and who are capable of and willing to be instructed by the Health Department. This work would require to be organised with great care.

We have the provision for supplying milk to the extent of one pint daily for the use of children under one year of age. Where the child is breast fed this milk is supplied for the consumption of the mother ; with artificially fed children it is supplied directly for the child. As the law stands at present this milk can only be supplied in quantities of one pint for children under one year of age. There are circumstances where the supply should be increased to 1½ pints, and other circumstances where it should be allowed for children above one year of age. Also, where the infant is breast fed, it would sometimes be advantageous to allow for the use of the mother, food in lieu of, or in addition to, the milk.

Provision is also required for the loaning of infant clothing in certain circumstances. This should not be either an expensive provision to make or a difficult one to administer without abuse.

The most serious want is the provision of an infant hospital. Formerly the Corporation possessed two infant beds in the old Maternity Home at Milton Road, but when the present Maternity Hospital came into being it was found impracticable to continue this provision. The provision of an infant ward of 6 beds should be one of the requirements to be met by a future Maternity Hospital.

Although in theory we have no accommodation for the hospital treatment of infant disease, the position is not so bad in practice as it appears, for by a certain amount of manoeuvering some accommodation for the treatment of infant disease is available. The diseases of the infant which have to be considered may be divided into four groups. Firstly, congenital deformities, etc. These are individually rare and collectively are not very numerous. They require very highly specialised surgical treatment, so that on the whole it would not be advisable to make any municipal accommodation for them. The second group is that of premature infants, and infants for whom breast feeding is impossible. Some urgent cases in this group have been accommodated in the Maternity Hospital. Obviously this is not the place for them. The majority of them can obtain nothing but advice which has to be carried out at their own homes. This usually fails and the infants die, though if proper accommodation were afforded for them probably none of them would die. The third group is that of respiratory disease. These are all infections, in the vast majority of cases, pneumococcal infections, often following measles and whooping cough. Provision is made for dealing with these cases at the Isolation Hospital. This provision is practically perfect in every detail, and ought not to be disturbed. As things are at present only a small proportion of these patients are dealt with in hospital, the majority being dealt with at home. Of those dealt with in hospital up to the present 100 per cent have recovered, and allowing for slips one might guarantee a recovery rate of 80 per cent. Of those treated at home the mortality is between 70 and 80 per cent. But no doubt this figure is an exaggerated one as some of the less severe cases are not seen by a medical man and so are not notified. But there is no question about the mortality being ridiculously high. The fourth class is formed by the diarrhoeal diseases. In the past this has been a very heavy and serious list. During the nineteenth century one person in six who entered this world quitted it within the first year from infantile diarrhoea, but there is no condition which has yieleded so quickly and so completely to preventive measures. Whilst I have been Medical Officer of Health of Swindon, I have seen very little of it, and that little occurred in the Summer of 1921. Since then no case of genuine infantile diarrhoea has occurred in the Borough, and we have the strongest reason to believe that never again will we have to deal with extensive epidemics of this disease. Such few diarrhoeal diseases as are met with nowadays are the resultants of bad artificial feeding. It requires an almost inconceivable combination of abuses to kill a child from infantile diarrhoea, but we must admit that this feat is still occasionally accomplished, and though preventive work at the clinics make it impossible for many such cases to occur there will be two or three cases a year which require to be dealt with. I should not propose any special accommodation for these cases.

THE TODDLER.

The toddler may be defined as the human being after the time that he is weaned and before he enters school. In Swindon this includes generally the ages from 9 months to 5 years. What has been said of the infant applies generally to the earlier part of the toddler stage. He is provided for at the clinics, and when we have an Infant Hospital he will share its accommodation with the nurslings. But there are certain problems in connection with the toddler which are not met with in the infant. He is liable to many acute infective processes and to the early stages of chronic disease. Most of his acute diseases can be dealt with in a general hospital when we possess one of sufficient capacity, or at the Isolation Hospital, but some provision is needed for the more chronic conditions. The latter part of the toddler stage can be considered with the earlier part of school life.

THE SCHOOL AGE.

The school child does not fall within the province of the Maternity Committee, but it will be advisable to give a brief idea as to what is required for dealing with the younger child. Two provisions are necessary for a complete scheme, an open air colony school and a small residential establishment which is in major part a hospital and in minor part a school. A consideration of the former is outside the scope of this Memorandum, but the latter may well fall within it as the majority of the patients who require this form of accommodation are toddlers suffering from chronic nervous or bone disease, etc. There will be about a dozen such cases in Swindon requiring prolonged hospital treatment for a time before they could be drafted into the open-air colony school.

From the foregoing it will be seen that the chief position involving any considerable expenditure that is required in Swindon is a new Maternity and Infant Hospital. It will be gathered from my remarks that such a hospital should be built on the plans of isolated blocks, making separate provision for the diseases of pregnancy, for normal delivery, for abnormal delivery, for puerperal states and for non-infectious diseases of infants. On some future date I will prepare and submit to the Committee a detailed account, with plans, etc. of such a Maternity Hospital as would satisfy modern requirements and allow for progress in various directions. All that need be said at the present is that our ideas of hospital construction and function are fundamentally different from what they were twenty years ago, and there is not the slightest question that the ideas that are now advocated by those who are most advanced in thought will be the recognised standard within the next year or two. This means that a hospital built on the plan of the majority of hospitals in this country will not again be constructed, and that the hospitals of the future will resemble camps or the more up-to-date fever hospitals that have been erected recently, which for practical purposes means that when choosing a hospital site acreage is the fundamental consideration. Fortunately in these days of motor transport there is no necessity, nor even excuse, for building a hospital in a populous district.

DUNSTAN BREWER,
Medical Officer of Health.

Public Health Department,
61, Eastcott Hill,
Swindon.

7th April, 1924.

APPENDIX III.

MATERNITY WORK, 1924.

No. of cases.	1. Ante-natal cases	Old 16 New 143	159
	2. Post-natal cases.	....	21
	3. Gynaecological cases		4
No. of consultations	1. Ante-natal cases	....	438
	2. Post-natal cases	....	52
	3. Gynaecological cases		5
No. of examinations	1. Physical	....	129
	2. Bacteriological	....	10
	3. Urine	....	301
	4. Wassermann	....	1

WORK DONE AT THE ANTE-NATAL CLINIC DURING 1924.

The work at the Ante-Natal Clinic has grown considerably during the year 1924. 159 cases were seen, of these 119 were delivered during the year, 8 were lost sight of, being cases outside the Borough, and 32 were still on the books at the end of the year. The percentage increase on the preceding year was 47.4 and on the year 1922 95.8. This shows that gradually the women of the Borough are beginning to realise the value of the clinic, and to seek advice instead of, as in the past, bearing pains and discomforts whilst thinking them a necessary part of pregnancy.

The aim of the clinic is to make pregnancy as far as possible a happy time for the mother by relieving her pains and discomforts, and reassuring her about herself and her child to be. It also aims at making the labour at the end of the pregnancy a safe time for the mother, resulting in the birth of a strong healthy child.

The health of the mother during pregnancy is now known to be very important both for herself and her offspring, and so this is carefully watched and any signs of disease or disorder remedied or relieved as speedily as possible. In this connection eight cases were advised to obtain dental treatment owing to serious conditions such as Pyhorroea, Alveolar Abscesses, etc. Other conditions found during examination and treated where necessary were :— a vaginal tumour, two lacerated cervices, one perineal fistula, one foetal malnutrition, one vulvitis, one syphilis, one inflamed umbilicus, one defective heart, two enlarged thyroids, three haemorrhoids, eight severe varicose veins, three cystoceles, one cystocele and rectocele, two nephritis and four albuminuria. Two epileptics and two cripples also attended the clinic.

Although this work is in its infancy, it is now possible (after watching the mother carefully during her pregnancy and examining fully) to know what to expect at her confinement and to prepare accordingly. Those cases found to require hospital treatment before delivery were advised to enter the Home early. Thus of the two nephritis cases, one took advantage of this opportunity and was admitted eighteen days before delivery, and by obtaining hospital treatment escaped any of those more serious conditions such as Eclampsia, and was delivered of a living male child. The other case refused the offer and although delivered of a living female child, she herself whilst in the Home became seriously ill. In the case of the foetal malnutrition the mother was advised to enter the home early and did so, but unfortunately did not remain there for long and was eventually delivered at home of a still-born child. After diagnosing the condition of the syphilitic patient, arrangements were made for her to have treatment and not to be admitted to the Home. Several cases were seen with abnormal pelves, one was slightly asymetrical, five were small pelves, three were rachitic pelves, one had a small outlet and two were considerably contracted. Nine cases in all were referred to their own doctors, on account of abnormal conditions indicating difficult labours. In two of these Caesarian section was performed, and in another labour was induced at an early date.

A large number of normal cases have been seen during the year as will be noted from the following results of the labours—

Normal deliveries	91
Forcep deliveries	19
Caesarian section	2
Still-birth	3
Premature Birth	4

The still-births require to be specially mentioned—one occurred in the induced labour already referred to, the second in a (?) slightly mentally deficient woman, whose membranes ruptured fifteen hours before she presented herself at the Home, the other being the case already mentioned—foetal malnutrition.

MARION DRAPER,
Assistant Medical Officer of Health

Public Health Department,
61, Eastcott Hill,
Swindon.

16th March, 1925.

APPENDIX IV.

BOROUGH OF SWINDON.

ANNUAL REPORT

OF THE

Chief Sanitary Inspector,

A. E. BOTTOMLEY,

For the Year 1924.

To the Chairman and Members of the Health, etc. Committee.

LADIES AND GENTLEMEN,

In a review of the work of the Sanitary Inspector's Department for the year 1924 one becomes reminiscent ; and looking back over 38 years of public service one is impressed with the importance of a revision and consolidation of the legislation governing Public Health work. The multiplicity of Enactments, Regulations and Orders makes it extremely difficult for the administration of the law and the expedition of work.

DRAINAGE WORK.

A point that is not readily observed by the Committee is the time occupied in supervision of the reconstruction of drainage work and in the remedying of other defects. This work involves a great deal of time and is very important. Most of the work dealt with arises from defects which occur underground and which have to be covered up when remedied. It will be realised that it is absolutely essential that this work should have proper attention, otherwise nuisances will be liable to recur.

SANITARY DUSTBINS.

After many years of steady plodding the Council have deter-determined to take a firm step in the provision of sanitary dustbins. Unfortunately the enforcement of this requirement has now been taken out of the hands of the department. It is most gratifying, however, to observe the ready adoption of these appliances for the abatement of a nuisance created by the collection of refuse at the rear of premises. A very large number of sanitary dustbins are now in use throughout the Borough and this is bound to have a beneficial influence on the welfare of the citizens.

DISPOSAL OF REFUSE.

It will be a decided benefit to the town as soon as the scheme for dealing with the refuse on up-to-date lines has matured. Until then I am afraid the nuisance arising from so many rats will have to be somewhat tolerated.

FOOD SUPPLY.

In view of the new Meat Regulations which come into force on the 1st April, 1925, the statistics showing the food destroyed offers material for serious consideration. It will be appreciated by all that with regard to the supervision of our food supply Swindon is well to the front in the care and attention that is given for the welfare of the community. If the co-operation of the butchers with your inspectors, which the committee have endeavoured to bring about, matures, Swindon will have, I am sure, every reason to be satisfied with the work that is being done to apply the law and set a good example in the advance of hygiene.

I am, Ladies and Gentlemen,

Your obedient Servant,

A. E. BOTTOMLEY,

Chief Sanitary Inspector.

Public Health Department,
61, Eastcott Hill, Swindon.
16th March, 1925.

SANITARY STATISTICS.

TABLE OF NUISANCES RECORDED AND ABATED 1924.

TABLE 1.

Nature of Complaints registered.	Defects brought forward from 1923	Complaints received and visited during 1924	Total	No. of complaints abated during 1924	No. of cases not abated at end of year.
Defective drains	28	29	57	20	37
,, traps	....	14	14	12	2
,, spouts and eaves troughing	7	45	52	43	9
,, roofs	54	60	114	56	58
,, and dirty W.C. Pans	16	36	52	27	25
,, floors	68	51	119	42	77
,, and unsufficient yard paving	10	29	39	32	7
,, walls	24	17	41	12	29
,, flushing cisterns	7	25	32	25	7
,, ceilings	18	23	41	36	5
,, forecourts	1	....	1	1	....
,, sinks	7	10	17	11	6
Offensive animals	6	14	20	2	18
Offensive accumulations	7	32	39	32	7
Choked drains	25	81	106	72	34
Damp walls	13	21	34	18	16
Dirty rooms	37	272	309	223	86
Overcrowding	6	10	16	5	11
Miscellaneous	15	346	361	323	38
TOTALS	349	1115	1464	992	472

VISITS AND INSPECTIONS, 1924.

TABLE 2.

Infectious Disease	220
Work in course of construction	1129
Slaughterhouses	2196
Bakehouses	66
Milkshops, Dairies and Cowsheds	163
Markets	224
Outworkers	74
Common Lodging Houses	14
Fried Fish Shops	188
Re-visits	1327
Miscellaneous	1915
Workshops	467
Ice Cream Shops	59
Butchers' Shops	379
Contacts with Small Pox	13
Pig-killing on private premises	63
House to House Inspection	633
	9130

DEFECTS IN OUTWORKERS' PREMISES.

TABLE 3.

Dirty Ceilings	25
Dirty Walls	22
Defective coppers	5
,, Ceilings	5
,, Paving	5
,, Sash Cords	10
,, Outside wall	1
,, Floor	4
,, Roof	5
,, W.C.	1
,, Joists	1
,, Door	1
,, Chimney	1
,, Plaster	2

INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

TABLE 4.

Premises	Number of		
(1)	Inspections (2)	Written Notices (3)	Prosecutions (4)
Factories .... (Including Factory Laundries)	83	Nil	Nil
Workshops .... (Including Workshop Laundries)	672	5	Nil
Workplaces .... (Other than Outworkers' premises)	96	Nil	Nil
TOTAL	851	5	Nil

TABLE 4—*Contd.* DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars.	Number of Defects.			Number of Prosecutions.
(1)	Found (2)	Remedied (3)	Referred to H.M. Inspector. (4)	(5)
Nuisances under the Public Health Acts—*				
Want of cleanliness	53	47	....	....
Want of ventilation	....	....	....	....
Overcrowding	....	....	....	....
Want of drainage of floors	4	4	....	....
Other nuisances	5	5	....	....
Sanitary accommodation: insufficient	4	3	....	....
Sanitary accommodation: unsuitable or defective	11	11	....	....
Sanitary accommodation: not separate for sexes	1	1	....	....
Offences under the Factory and Workshop Acts:-				
Illegal occupation of underground bakehouse (s.101)	....	....	....	....
Other offences (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921).	....	....	....	....
TOTAL	78	71	....	....

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

DISINFECTANTS.

TABLE 5.

Number of Applications		1613
Number of Applications Granted		1613
Quantity given	Fluid	198 galls
	Powder	1 cwt. 3qrs. 6lbs.

DISINFECTION.

TABLE 6.

Cases of Infectious Disease	244
,, Cancer	8
,, Consumption	105
Verminous Rooms	41
Number of Lots of Bedding destroyed	19
Number of Lots of Bedding disinfected	440
School Shawls disinfected	35
Library Books disinfected	65
Animals destroyed	12
No. of School Rooms disinfected	12

DAIRIES, COWSHEDS AND MILKSHOPS.

TABLE 7.

Dairies and Milkshops	44
Cowsheds	17
Milk Purveyors from outside the Borough	16
	77

1 subsidiary license only was granted for the Sale of Grade ' A ' (Non Tuberculous) Milk.

Inspections	163
NUISANCES FOUND—	
Dairies requiring limewashing	21
Cowsheds requiring limewashing	9
Dirty yards	1
Offensive accumulations	2
Defective or insufficient drains	4
Unsuitable utensils	2
Structural defects	3
	42

SLAUGHTERHOUSES.

TABLE 8.

Registered	9
Licensed	10
TOTAL	19
Number of Inspections	2196
NUISANCES FOUND—	
Want of cleanliness	13
Insanitary condition of pens and yards	5
Insufficient pen accommodation	1
Offensive accumulations	7
Choked drains	4
Structural defects	2
TOTAL	32

COMMON LODGING HOUSES.

Table 9.

	Adults.	Children
On Register		1
Inspections		14
Number of persons for whom accommodation is provided	116	10

TENTS, VANS, SHEDS, Etc.

From time to time throughout the year caravans come to the Town in connection with fairs, fêtes and amusements. Visits are paid to the sites occupied by the caravans to see that the Bye-laws in respect of such are complied with, and so far there has been no trouble in this respect, the occupiers always being willing to do what is necessary.

THEATRES, CINEMAS, Etc.

There are in the Borough of Swindon :—

1 Theatre
5 Cinemas
1 Billiard Saloon
3 Dancing Halls, Etc.

These are periodically inspected. Various improvements have been carried out from time to time, bringing the sanitary arrangements up to date, and in accordance with hygienic principles.

During the year the whole of the internal structure of the Empire Theatre has been pulled down and rebuilt. The sanitary arrangements were carried out under the direct supervision of your sanitary officers, the proprietor's ambition being to have the best that modern ingenuity could devise.

BAKEHOUSES.

TABLE 10.

Factory Bakehouses	12
Workshop Bakehouses	19
Domestic Bakehouses	1
TOTAL	32
Number of Inspections	66
NUISANCES FOUND—	
Limewashing overdue	26
Dirty Premises	1
Ceilings not painted	2
Dirty and Choked W.C's.	2
Defective flushing cisterns	2
TOTAL	33

FOOD SUPPLY

TABLE 11.

There are on the registers of the Department—

Fried Fish Shops	28
Ice Cream Shops	67
Cooked Meat Shops	25

and these premises are regularly inspected by your officers.

In the month of June a prosecution was instituted against a butcher from outside the Borough for exposing for sale tubercular pig meat, which he was hawking round the town. The case was tried before the Borough Magistrates, and the defendant fined £5 and £2 : 2 : 0 costs.

MEAT AND FOOD DESTROYED.

TABLE 12.

	Tons.	Cwts.	Qrs.	Lbs.
33 Carcases of Beef	8	15	1	10
Portions of Carcases of Beef ..	1	10	3	14½
Carcases of Pigs		1	1	16
Offal	3	10	0	20
Veal				8
Tinned Meat			1	5½
Fish		1	3	21
	14	0	0	11

HOUSING.

TABLE 13.

Number of new houses erected during the year :—	
(*a*) Total	299
(*b*) With State Assistance under the Housing Acts, 1919 or 1923:	
(i) By the Local Authority	* Nil
(ii) By other bodies or persons	222
I. UNFIT DWELLING-HOUSES.	
INSPECTION—	
(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).	569
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	384
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	Nil
(4) Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	552
II. REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES.	
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	179

III. ACTION UNDER STATUTORY POWERS.

A. Proceedings under Section 28 of the Housing. Town Planning, &c., Act, 1919.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	Nil
(2) Number of dwelling houses which were rendered fit—	
(a) by owners	Nil
(b) by Local Authority in default of Owners	Nil
(3) Number of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	Nil

B. Proceedings under Public Health Acts.

(1) Number of dwelling houses in respect of which notices were served requiring defects to be remedied	3
(2) Number of dwelling houses in which defects were remedied—	
(a) by owners	3
(b) by Local Authority in default of Owners	Nil

C. Proceedings under Sections 17 and 18 of the Housing, Town Planning, &c., Act, 1909

(1) Number of representations made with a view to the making of Closing Orders	Nil
(2) Number of dwelling houses in respect of which Closing Orders were made.	Nil
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit.	Nil
(4) Number of dwelling-houses in respect of which Demolition Orders were made	Nil
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders	Nil

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* 30 new houses were erected by the Swindon Corporation under the Housing Acts on their Hurst Park Housing Estate, which is outside the Borough.

APPENDIX V.

ANNUAL REPORT OF THE RATS OFFICER FOR THE YEAR 1924.

Ladies and Gentlemen,

The Ministry of Agriculture and Fisheries makes application every year for a report upon the work done in connection with the destruction of rats, particularly in regard to National Rat Week. This serves a double purpose, and enables your officer to give a resume of the work done during the year.

With regard to the Rat Week, since our first experience in Swindon we have not again resorted to its application ; our own method, it is claimed, is preferable, as we constantly keep in touch with the different sources of trouble caused by the rodents, and experience teaches that better work is achieved in this way. Again, the public are aware of the work and are not backward in seeking advice and assistance. As far as Swindon is concerned it is the old, old story as to the sources of trouble, *i.e.*, defective drains and sewers, bad construction of premises, and the ideal breeding grounds which are offered by the tips.

An Inspector from the Ministry of Agriculture and Fisheries, on his last visit, advised the treating of our tips with iron sulphate and crude cresol. We carried out what might be termed a mild experiment on these lines, and there is every reason to believe that a proper dressing of the tips in a thorough and methodical way will have the desired result, but it is a big task.

During the year under review there have been two occasions which have given us strong reasons to believe that there has been a migration of rats from outside districts into our area. These were most noticeable at the tips where the number of rats had been reduced, and where it suddenly became evident that a new colony had established itself.

During the year a large number of defects in connection with premises, drains and sewers were dealt with, as the following table shows :—

Rats Caught	Complaints Received.	Due to drain or sewer	Due to structural defects
9,462	134	24	20

It is to be feared that the work of rat catching cannot claim finality as it asserts itself as a recurring necessity.

I am, Ladies and Gentlemen,
Your obedient Servant,
A. E. BOTTOMLEY,
Rats Officer.

Public Health Department,
61, Eastcott Hill, Swindon.
16th March, 1925.